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THE

ARCHIVES OF PEDIATRICS

A MONTHLY JOURNAL DEVOTED TO THE

DISEASES OF INFANTS AND CHILDREN.

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THE

ARCHIVES OF PEDIATRICS.

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Original Communications.

CONVULSIONS IN CHILDREN.

BY WM. T. PLANT, M. D.

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As likely as not your first patient will be a baby in a fit. The seizure has been sudden; the appearances are appalling; death is thought to be imminent and you are sent for because near at hand and likelier to be *in* than the older and usual family attendant. It may be a new experience for you and in dismay you ask yourself what you shall do. I will tell you.

In the first place, go! "Stand not on the order of your going, but go at once!" Indeed the summons is so urgent that you can hardly do otherwise. And as you go you may get comfort from the thought that quite likely the fit will be over and the child asleep by the time you arrive and also that a convulsion does not very often end fatally.

We will suppose that the fit is not over and that you find the little one in such a condition as I shall now describe. It is lying perhaps in a small bed-room. The ladies of the block or neighborhood, as many as can get in, are there, consternation in their faces and pity in their hearts, all anxious to help if they only knew what to do. The patient is really in a pitiable state. The whole body is in violent, uncontrolled action. The facial muscles are twitching, giving to the features the most frightful expressions. The mouth is distorted; and often the lips and chin are covered with a bloody foam. The eye-balls are turned up under the lids, or to one side, or are rapidly jerked this way and that. The lingual muscles take part in the general mêlée and frequently the tongue is severely lacerated by the teeth. The head is drawn backward or to one side by a succession of spiteful jerks. Generally the face is livid from congestion; exceptionally it is pale. The arms and legs are in ceaseless convulsive movement. The forearms are rapidly bent and extended on the arms; there are alternate movements of incomplete pronation and supination and the limbs are twisted and drawn into various awkward and grotesque shapes. Usually, the legs are less roughly dealt with than the arms.

The respiration is hurried and superficial; in some cases it is quite suspended for a time owing to rigid spasm of the thoracic muscles. This is a chief danger of fits in young infants—fixation of the respiratory muscles. Older children almost always recover their breath in time. Often there is a guttural noise that sounds as if the patient was in great distress.

If you can get your ear over the heart you will probably find it in tumultuous action; not wholly because of its share in the convulsion, but chiefly, perhaps, because of the agitation of the body and interference with the circulation. The pulse is variously affected, but I have hardly ever been able to count it owing to the constant movements of the body and the jerking of the muscles.

There is no outcry, or appealing look or other sign of conscious suffering. General and special sensibility are apparently abolished. A copious perspiration bedews the surface.

These are some of the observations that you may make but you must make them instantly. It is a time for action rather than for clinical research. What shall be done? First, evoke order from confusion. Here are good ladies longing to be of use; give them something to do. Ask one of them to provide a plentiful supply of hot water; and another to look up a bath or wash tub. If the child is in a small room, assign to another the task of carrying it to a larger one and loosening the clothing at the neck and waist; or better, of removing all clothing and wrapping in a flannel blanket. Probably by this time the bath is ready. See that the water is warm enough. It ought to be from 95° to 97° F. Ask one or two of the attendants to place the patient in it, immersing to the neck. Unless the child is very young, it is a good plan to stir a handful of mustard with the water of the bath. If the head is hot and the features dark from congestion I would at the same time wrap the head with a cloth wrung from ice-water; but I would not do this when the appearances are those of cerebral anæmia. If unable to procure a utensil large enough for a general bath, the feet and legs may be thrust into a pail of hot water with mustard. In most cases you will observe a speedy decline in the violence of the movements, and in a few minutes they will have ceased. There is an almost magical relaxing power in a general hot bath.

The fit being over, the child is to be wrapped in warm flannels and laid in bed. I like Ellis' plan of wringing woolen cloths from the hot mustard water of the bath and after sprinkling with a little more mustard winding them about each leg and foot. Be careful not to excite too much action in this way.

It is my habit to give a full dose of bromide of potassium and to repeat it in an hour or less if there are any symptoms of nervousness. From two to five grains may be given to a child of two years. It is often effectual in preventing a return of the trouble.

But sometimes the fit is prolonged notwithstanding the hot bath, or it gives way only to come again. My next resource would be chloral by the rectum. Do not give too much. From three to six or eight grains in a teaspoonful of starch or mucilage is a safe and usually an effective dose.

If the fit still persists or shows evidences of returning, you will do well to resort to an emetic. To this end you may give, when the child can swallow, from three to five grains of ipecac or its equivalent of the syrup, repeating in a few minutes if there should be occasion. Independently of its power to empty the stomach of offending matters, an emetic will sometimes put an end to convulsions that have resisted other treatment.

These measures, one or all of them, are almost always effectual, but if in spite of them the fits should continue, I would resort to anæsthesia by inhalation; not continuously but as may be necessary to hold the convulsive movements in check. Remember that for prolonged administration ether is a safer agent than chloroform. Authors have always recommended and do still recommend blood-letting when the face is turgid and the convulsions are strong and the child robust. I believe it to be, in this condition, a reliable and valuable remedy and I would not hesitate to resort to it if success delayed to follow the means already advised. I can well believe that there may be occasions when a prompt venesection may save a congested brain from irremediable injury.

But at length, by fair means or by foul, the eclamptic condition disappears and is succeeded by a period of stupor, amounting usually to a heavy slumber. But even in sleep you may frequently notice a jerking of the limbs; sharp, flexion of the fingers and toes; twitching of the muscles about the mouth and half open eyes—appearances that warrant the conclusion that the tendency to convulsions is not yet over.

After the subsidence of the spasms and while you are modestly receiving the grateful thanks of the mother and the plaudits of the neighbors for your efficient treatment and able generalship, you may inquire and speculate as to the cause of the attack. Here you enter a broad field, for convulsions in children result from numerous and widely differing causes. Anything that irritates or disturbs the nervous system of an infant may plunge it into fits. We are not surprised to find that they attend on structural disease of the great nerve centres. In hydrocephalus and meningitis, both cerebral and cerebro-spinal, you will often meet with them. In fact, I think cerebral hyperæmia is the commonest of causes and that, as you know, may come from many disorders. Transient fevers from indigestion and taking cold as well as typhoid fever, pneumonitis, pleuritis and peritonitis may cause fits through high temperature and active congestion of the brain. Dentition is likewise a fruitful cause, partly through nervous erethism and partly through cerebral congestion. Severe cases of whooping-cough are occasionally attended by convulsions, caused, we may suppose, by a passive congestion of the brain.

If you practice in malarial districts you wiil observe that in infants the cold stage is often marked by a convulsion rather than a chill.

It is not unusual for the exanthematous diseases to begin in this way. Both scarlet-fever and small-pox are sometimes introduced by fits of so violent a character that life is destroyed before any eruption appears. In some of these cases our knowledge of the cause is conjectural rather than certain; in others it is made certain by the appearance of a characteristic eruption after death. I have also known diphtheria to herald its coming by convulsions. There is no doubt that in such cases the poison of the disease shares with the cerebral hyperæmia in producing the result, for in other instances spasms ensue from deleterious substances circulating in the blood as after large doses of opium, veratrum-viride, aconite or belladonna.

You may note it as an interesting fact that cerebral anæmia as well as hyperæmia may be a cause, opposite conditions giving rise to the same symptom. Large losses of blood and exhausting diarrhœas that rapidly render the brain anæmic, not seldom lead to convulsions.

Furthermore you may very often find the cause in an overloaded stomach. One day I was hurriedly called to the Fifth Ward to see a suckling whose father had fed it, in the mother's absence, with hard boiled eggs. Two terrific fits were the result, but after a vomit it was as well as ever.

Worms, especially the lumbricoid and ascarides, sometimes excite eclamptic spasms, but not nearly so often as the laity think. "*Worm* fits" is an old phrase that is still used much more frequently than there is any actual warrant for.

Strong emotion is an occasional cause. Many a child has been "scared into fits." Outburts of passion have had the same effect; sudden injuries also, partly through pain as well as fright.

There have been many instances of nurslings being thrown into spasms through disturbances of the maternal system by anger and inebrity and the onset of acute diseases as also by the return of the menses.

I must not forget to mention the fact that all serious disorders in children are in their latter stages liable to this symptom. The physician learns to dread *late* convulsions. They show that the disease has made a profound impression upon the nervous system and they are very apt to precurse a fatal termination.

I could mention other causes but I have said enough to convince you that almost any disease or accident may in some children lead to convulsions. And you will be more fortunate than I have been if, on some occasions, with your best efforts you do not fail to ascertain the cause.

The liability to eclampsia—for such is the name often employed to designate convulsions—is not the same at all ages or in all children. I think you will find it most frequent during the second and third years, though many older children are not strangers to it. Many escape altogether though exposed to the causes that produce it in others. Some children I have known to have a convulsion with the onset of every trifling ailment. A highly sensitive and nervous temperament is favorable to their appearance and temperaments are inherited; so that eclamptic seizures are common among the children of some families, rare in others.

You will naturally ask if there are any prodromal symptoms—symptoms that herald an approaching attack. Occasionally there are appearances that may give an inkling of what is to happen. Such are twitching of the facial muscles and grinding of the teeth in sleep; waking suddenly in fright; strong flexion of thumbs and fingers; drowsiness in the day and unusual petulance on being disturbed. The smiles or "angel whispers" of sleeping infants are but the contractions of certain facial muscles in response to some irritation of the nervous system. Timely attention to these phenomena may ward off an attack of general convulsions.

But many times there are no premonitory symptoms whatever and the child leaps at one bound from full health into a terrific fit.

Not all cases are so severe and frightful as the one I have described. The seizure may be so light as to seem scarcely more than a transient nervous perturbation. Sometimes only one side of the body is affected; and indeed when it is bilateral, one half is usually more convulsed than the other. Grinding of the teeth, rolling of the eyes and flexion of the digits are but convulsions in miniature.

The fits are variable in number and duration. Often there is but one; sometimes there are many following hard on one another. A single one does not last more than three, or five or ten minutes as a usual thing; exceptionally for half an hour. In one case that occurred in my practice some years ago, a lusty boy was taken suddenly in the morning and was in strong convulsions, with an occasional remission but no intermissions, for twenty-one hours when he died. This was one of the cases in which I was entirely unable to ascertain the cause.

Whether light or severe, a convulsion is but a symptom and your prognosis will always depend on your conviction as to the nature of the cause. If there is progressive cerebral disease there is small ground for hope. If the cause is trivial and transient as teething or indigestion, the outlook is hopeful however severe the spasms may be. Occurring at the outset of acute febrile diseases, they are not to be regarded as of unfavorable omen, though some rare cases of variola and scarlatina must be excepted; but occurring in the course of and especially near the natural termination of these disorders the outlook is serious and experience will teach you to be chary of strongly encouraging words under such circumstances.

There are remote as well as immediate dangers from eclamptic fits. Paralyses of various parts may remain, though these are not usually, I think, permanent. In such cases we may presume that some lesion of the brain, as hemorrhage, occurs as the result of the convulsion.

Some children are left in a lasting condition of semi-idiocy. In my own practice a promising girl was taken in strong convulsions in the middle of the night. For some time after, they were often repeated leaving her in a giddy and unbalanced mental state which time has not improved. In another case in which the fits were equally without forewarning or apparent cause, the power of speech was for a long time nearly gone. In that respect the patient has improved, but she is still of a spiteful temper and given to fits of ungovernable passion.

Regarding treatment I have some things to add to what I told you at the outset. "Forewarned is forearmed." When your attention is asked to an infant that has premonitory symptoms—jerking tendons, fixed thumbs and fingers, half open eyes, grating teeth, etc., that is your opportunity for forestalling trouble. Give a cathartic as a grain or two of calomel with magnesia, or three grains of hydraygrum cum cretâ with castor oil; give a hot mustard foot-bath and a dose of bromide or valerian at bedtime, repeating as there may be occasion. If the bromide alone will not control these symptoms I would combine chloral with it in quantities of from two to five grains.

If you find hot and swelling gums over advancing teeth use the gum lancet as I shall direct when I talk to you of dentition. I have known great apparent relief from this little operation.

Fits so often result from disturbances of digestion that you will naturally inquire if the child has eaten of improper articles. But whether you find a cause in dietetic errors or not, if the abdomen is tumid, the tongue coated and the breath offensive, you are justified in resorting to purgatives. I know of none better for this condition than those above recommended. One grain or even a half grain of calomel well rubbed with sugar frequently acts very happily.

Bearing in mind the possibility of worms as a cause, I am much in the habit of combining santonine in a suitable dose with the above laxatives or giving it with castor oil.

Though not appropriate in most cases, though even harmful in some, there are occasions when opiates are of the utmost service in warding off convulsions. I refer to cases of cerebral anæmia from loss of blood, or profuse diarrhœa attended with pale features and, if the child is under one year, with a depressed fontanelle. Severe pain also affords an indication for their use. In a drop of laudanum or its equivalent of paregoric with brandy or bourbon and the hot bath, you will find, I think, your best safeguards.

The diet of children subject to fits should be carefully attended to. It ought to be nourishing, but plain. Milk, bread, oat-meal and potatoes with lean meat now and then should be the staples. Occasions of excitement, anger and fright should be avoided. There should be daily exercise out of doors, and a daily cool bath. Attendance on school had better be deferred until the health is completely re-established.

REPORT OF FIFTEEN CASES OF TRACHEOTOMY FOR CROUP, WITH REMARKS ON AFTER TREATMENT.

BY D. C. COCKS, A. M., M. D.

Assistant Surgeon to the N. Y. Eye and Ear Infirmary and Consulting Ophthalmic Surgeon to the Randall's Island Hospitals, New York.

During the past six years I have done tracheotomy on fifteen cases of membranous croup; of this number eight lived and seven died. In the tables (page 11) will be found such facts in the history of each case as could conveniently be brought together for easy reference and comparison.

These cases were all with the exception of the ninth (which was operated on at the Randall's Island Infant Hospital by Dr. Brose under my direction) operated on at their homes and the nursing was done by the relatives of the little patients.

The average age was $3\frac{11}{15}$ years.

The average age of the successful cases was $4\frac{1}{4}$ years.

The average age of the unsuccessful cases was $3\frac{1}{7}$ years.

Of the successful cases, there were five boys and three girls, and of the unsuccessful cases there were six boys and one girl. The duration of the dyspnœa before operation was one and eleven-sixteenth days in the successful, and one and ten-sixteenth days in the unsuccessful cases.

In one case the tube was removed on the fourth day and in one not until the seventy-third day. The fact that it was delayed so long in this one case, was due first, to my inexperience,—it being my first case, and secondly to the development of granulations which closed the trachea whenever the tube was removed. It was finally removed by the boy coughing it out while the tape was unfastened

CASES OF CROUP OPERATED ON.

UNSUCCESSFUL.

Name	Residence	Age	Sex	Date of operation	Duration of dyspnœa	Diphtheritic membrane in fauces	Days of death	Cause of death	Anesthetic used
1 Gallagher	347 East 109th street	3½ yrs	M	Nov. 16, '78	No note	Yes	2d day	Inspissated mucus	None
2	118th st. & 1st ave.	3 "	M	1878	36 hours	No note	3d day	Extension of membrane	Chlof'm
3 Lafferty	2206 1st avenue	4 "	M	Dec. 15, '81	....	None	4th day	do	do
4 Evens	347 East 104th street	3 "	M	July, '81	48 hours	No note	20th hour	Diphtheritic poison	do
5 Falk	347 East 105th street	4 "	F	1881	36 hours	None	2d day	Diph. & shock of operation	do
6 Chandler	2007 3d avenue	1½ "	M	Sep. 12, '81	....	Yes	3d day	Extension of membrane	do
7	345 East 115th street	3 "	M	1882	36 hours	No note	20 hours	Diphtheria and asthenia	No note

SUCCESSFUL.

Name	Residence	Age	Sex	Date of operation	Duration of dyspnœa	Tube removed on	Diphtheritic membrane in fauces	Anesthetic used	Extrusion of membrane
8 Jas. Redden	315 East 111th street	28 months	M	Sept., 1877	2 days	73d day	None	Chlof'm	None
9 Randall's Isl'd	....	3 years	F	Nov., 1878	36 hours	About 8th day	No note	do	do
10 Thornton	207 East 106th street	2 yrs. 8 mos.	F	Jan. 30, 1881	48 hours	14th day	None	None	do
11 O'Connell	236 East 113th street	3 years	M	Nov. 2, 1880	48 hours	9th day	do	Chlof'm	do
12 Anderson	2228 2d avenue	3 yrs. 11 mo.	F	Aug. 4, 1880	24 hours	15th day	Yes	do	do
13 Johnson	335 East 119th street	4 years	M	May 28, 1881	24 hours	4th day	None	do	do
14 Lawrence	3d ave. & 139th street	11 years	M	Nov. 11, 1880	48 hours	6th day	Yes	do	do
15 Hall	214 East 120th street	4 years	M	Jan., 1883	2 days	9th day	None	Ether	Yes

and the father being unable to replace it, and when I saw the child it was not deemed necessary to re-introduce it.

Of the unsuccessful cases two died on the first day from the diphtheritic poison,—the respiration being entirely relieved. Two died on the second day,—one from shock and one from inspissated mucus. Two died on the third day from extension of the membrane below the tube, and one on the fourth day from the same cause.

In connection with this report I propose to make a few remarks in regard to the after treatment in tracheotomy for croup.

Anatomists and surgeons have dealt so fully with the details of tracheotomy that it seems useless to repeat them here; and so it may be said of the after treatment,—but not to the same extent, and, although I do not expect to add anything new, yet I hope by calling again attention to those minutiæ of after treatment in which success so largely depends, I may aid and help some discouraged brother in these difficult and tedious cases.

Constant watchfulness is part of the price we must pay for success. There is perhaps no class of cases in surgery in which this is so self-evident as in this we are considering. For I hold that the patient's life is in jeopardy if he is left for more than two or three minutes without an attendant capable of rendering efficient aid in the numerous exigencies that surround a case of tracheotomy. Most of the cases I have operated upon have been in tenement houses where trained nurses could not be obtained, and I have therefore been compelled to depend upon a near relative of the patient. Before the operation I have tried to prepare the minds of the parents for the fact that the operation was only preliminary to a two or three weeks struggle for life, and if their child was to live it would be as the result of their constant watchfulness and care; and in all the successful cases one or both parents have done nothing else but attend to the case. During the first three or six hours the surgeon or his assistant must remain with the case; at first, attending to everything himself, and then superintending the work of the self-appointed nurse, until a little practice familiarizes him or her with the details of nursing and also with the *reason* for everything; so that they cease to be automatons but become real helpers in the future stages of the disease. I can say this for them,—they have given me great satisfaction.

As a rule the child falls asleep inside of twenty minutes after the operation, the terrible exertion necessary to breathe before the trachea was opened having been relieved nature seeks relief in sleep. This may last for several hours and should not be disturbed. This time is well utilized by the surgeon in instructing the nurse how to manage the steam apparatus and in giving *detailed* directions as to the management of the case. In the after treatment of tracheotomy for other diseases or accidents the steam spray may not be needed, but in operations for croup it is one of the most essential elements in treatment, other means of supplying moist air, i. e. the moist warm sponge over the tracheotomy tube, the room filled with warm steam, etc., are necessary if the steam spray can not be obtained but if it can I think it the best.

The apparatus should be so placed that the moist air will pass directly over the tube—I continue the spray with occasional intermissions of ten or twenty minutes until the tube is removed i. e. (five to ten days); when however it is not removed until later it is not needed only the tube should be protected from dust and the patient kept in a room of EQUITABLE TEMPERATURE, *i. e.* 75° to 80° F. The boy Gallagher died from inspissated mucus,—the parents neglecting the child and not notifying me of the fact of obstructed breathing, My first case impressed me strongly, the child did well for twenty-four hours, at the end of which time on entering the hall of the house I could hear the child's difficult breathing, and when I entered the room all the symptoms of obstruction existed the same as before the operation. The apparatus had been discontinued. Five minutes work with the steam spray, the inner tube having been removed, and a feather dipped in warm water having been introduced repeatedly hard masses of inspissated mucus were discharged and the symptoms of obstruction relieved. This experience was repeated once or twice in each of the successful cases until the nurses became convinced of its necessity, and thereafter followed directions.

I have spoken of feathers; the best are feathers six to ten inches in length,—the tips of which are not too stiff; these dipped in hot water and then passed through the tube into the trachea moisten and detach any patches that may dry in spite of the spray.

I have used a double fenestrated tracheotomy tube,—the inner one projecting beyond the outer in the trachea. The size of the tube has been large enough TO FILL the trachea. The movable collar through which the tube passes I believe to be a great help toward the comfort of the patient and an efficient aid toward recovery by preventing ulceration of the trachea from pressure of the tube.

In order to keep the nurse's attention as well as to insure the safety of the little patient, I instruct the attendant to remove the inner tube every fifteen minutes, to *soak* it in HOT WATER *and cleanse it by drawing a strip of muslin or linen through it,* and then to replace it.

By the third day the outer tube has made a track for itself and can be removed and cleansed with as little difficulty almost, as the inner was at first. This should be done once or twice daily until it can be dispensed with, and I would say right here that as soon as we can be certain that the larynx is clear the tube should be permanently removed. To test this it is well to occasionally place the index finger over the outer opening of the tube, the inner tube having been previously removed and compel efforts of respiration through the fenestrum and larynx. At first these efforts will be futile as the larynx is filled with mucus, but when this is dislodged the obstruction to the respiration will as a rule be a fair indication of the state of the larynx. As soon as respiration can be carried on through the larynx it is well to cork up the tracheotomy tube giving instructions to the nurse to remove and replace it (*i. e.* the cork) as the indications may call for.

On the following day the tube may be removed and the wound closed with the finger, if then respiration is easy the tube can be left out, but, if not, it must be replaced and a trial made on a subsequent occasion.

In a few cases granulations develop and it may be necessary to treat them with nitrate of silver. In my first case granulations probably prevented respiration when the tube was removed, but I think if I had removed it earlier,—on the six to the tenth day, the granulations would not have developed. Of course where the granulations spring from the surface left by the exfoliated membrane, this source of obstruction will arise irrespective of the length of time the tube is left in or the kind used.

As I confess to an inability to distinguish between membranous and diphtheritic croup, in my hands the after medicinal treatment resolves itself into the treatment of diphtheria; *i.e.* abundance of nourishment, milk, eggs, chicken broth, jellies, etc. at *definite* intervals of one and one-half to three hours, depending on the condition of the stomach, not awakening the child except under very extraordinary circumstances, and the administration of tincture of iron, chlorate of potash and brandy freely. At a period varying from the second to the fifth days the fluids taken are apt to pass partially into the trachea and out through the tube causing severe coughing spells; where this is slight, it needs no treatment except the substitution of semi-solid food for the liquids which have been used, but in the more severe cases, it may be necessary to administer nourishment and medicine per rectum, or by means of a soft catheter passed through the nose into the œsophagus. This condition continues from one day to a week and then gradually disappears but while it continues is very distressing and needs careful attention.

The appearance of the opening left in the neck after the removal of the tube varies considerably,—depending upon the extent of the original wound and the time at which it is removed. When it has remained for three or four weeks or more the opening immediately closes and a small granulating surface is left which requires only to be covered with a piece of linen smeared with vaseline to heal in a few days; but when the tube is removed at an early period, third to eleventh day, a large gaping wound exposing the trachea is left, for as a rule the presence of the tube, and the escape of mucus, etc., around the tube prevents primary union; even when the edges of the wound have been united by sutures and adhesive plaster and protected properly by a double piece of linen placed under the neck of the tube to prevent injury to the wound.

It is advisable to close the tracheal opening as soon as possible and this is done best I think, by long and narrow pieces of adhesive plaster drawing the lips of the wound together as near as possible, thus favoring granulations and compelling the child to breathe through the natural passages; these straps become easily loosened, by the current of air and mucus forced through the wound, and for the first few days have to be renewed three or four times daily. The wound ordinarily closes in from four to ten days, leaving a scar which is more or less conspicuous depending on the size of the wound when the tube is removed.

One of the most difficult problems that presented itself to me I met in my first case, (No. 8 in the table), granulations blocking up the trachea.

The boy progressed favorably with the exception of one or two attacks of dyspnœa from inspissated mucus until about the 13th day; I then found that he could breathe fairly through the fenestrum of the tube and the larynx when (the inner tube having been removed) I placed my finger over the opening in the outer tube. I then placed a cork in the tube and compelled him to breathe through the larynx for twenty-four hours. I then removed the tube, but as there was slight obstruction I was fearful that something might happen if I left it out and so replaced it; this I tried several times and although in the light of subsequent cases I now know that the breathing would have progressed favorably I was afraid to leave it out. On one occasion about four weeks after tracheotomy, the patient was brought to my office breathing and talking through the fenestrum and larynx. I thought it a good opportunity to again try to remove the tube; I accordingly did so, with a result that deterred me for weeks after from any further attempts at removal. As I have remarked when the tube has remained in situ for three or four days after tracheotomy, it makes a track for itself so that the tube can be removed and introduced with ease. After a week's time its reintroduction becomes slightly more difficult,—the edges of the trachea sometimes offering slight obstruction, but if a little patience is used holding the tube gently in its proper position as near as possible, the child will cough and the expulsive effort will widen the tracheal opening and the tube will readily slip in, while, if force is used, it will only enter at the expense of serious injury to the tracheal walls which have been pushed before it. When the tube has remained in the trachea for a month or over the cicatricial tissue encircles the tube closely and when the tube is removed contracts quite decidedly. In the case of which I am speaking this took place on the removal of the tube but would have been of but little consequence if the trachea had been clear, but on removing it, all attempts at respiration of the child were futile; with each inspiratory effort the trachea in the vicinity of the opening seemed to sink in and collapse. I tried to reintroduce the tube without success, I then tried the smaller one with a like result; I tried with retractors to open the trachea but the struggles of the smothering child prevented my accomplishing any good; as the child's condition by this time was getting to be serious, I passed my largest eustachean catheter into the trachea to relieve the child and to give me time to think, but although some air passed it was not sufficient and something had to be done or the child already cyanotic would be dead; I withdrew the catheter, passed it through the tracheotomy tube, then passing the catheter into the trachea with it as a guide forced the tube into position and the child revived. It has seemed to me since that a bivalve tracheotomy tube would have relieved me of all difficulty in this case.

I think the difficulty in this case was three-fold, *i. e.* a few granulations narrowing the tube, mucus above this aiding the obstruction and a softening of the cartilaginous rings of the trachea already weakened by section made on opening the tube which allowed the trachea to collapse.

When emphysema occurs it is advisable to at once remove the stitches by which the lips of the original wound were united, thus giving free exit to the air in expiration and preventing its being forced into the gaps left in dissection.

With a properly fitting tube with a movable collar ulcerations in the trachea will not occur because the essential element in their causation (*i. e.* pressure) is removed.

The voice after the removal of the tube is aphonic as a rule; this condition gradually improves so that at from one week to a month it is entirely restored,—electricity applied to the larynx externally or internally to the vocal chords may hasten the cure as well as proper care in use of the voice.

If membrane has formed in the trachea, below the tube I know of nothing that will surely stop its growth, but much can be done to limit its formation, and to facilitate its exfoliation and its removal when detached.

It is not infrequent that a short time after the introduction of the tube pieces of membrane become detatched, and if they are small, the child will cough them up through the the tube, but if large, they may cover the opening in the tube and so stop respiration; it is an emergency like this that requires the nurse to act promptly and decidedly. I always have a probe bent to correspond with the curve of the tube, so that it can readily be passed down and dislodge the membrane from its position. I instruct the nurse to use first a feather and if that does not succeed then to use the probe. It would seem as if this procedure would suffice but it does so in a part of the cases only and where it fails the tube must be removed by the surgeon. The edges of the wound held open with tenacula, while the child coughs, will often allow the membrane to escape but in other cases the trachea must be examined under illumination with the head mirror and the offending piece of membrane seized with a forceps; the best for this purpose are stiff bladed ear forceps as they are bent almost at right angles with the handle and if needed can be introduced far into the trachea; at other times a soft catheter may be introduced into the trachea and suction made by a syringe thus effecting the removal of mucus and membrane.

The removal of the tube to allow and favor the escape of detached membranes is in some cases a very simple affair, but I met with one case where it was a serious matter, and I will give a brief history of the case.

The girl aged two years eight months had had dyspnœa for forty-eight hours. Her attending physician, Dr. Hugo Kuenstler, had called in a surgeon who advised against an operation stating that the child was dying and tracheotomy would be useless. I saw the case a few hours afterwards; the child was evidently moribund, its chest was filled with moist rales. I advised an operation immediately but promising nothing,—but that there was a forlorn hope. The parents consented. We placed the child on the table and before the mother could leave the room or anything had been done, the child ceased to breathe; of course there was then no time to hesitate; I therefore with two cuts reached the trachea, picked it up with a sharp hook incised it and introduced the tube aided by the dilators,—but the child made no attempt at respiration. I was about to try artificial respiration when Dr.

Kuenstler placed his mouth to the tube and blew into the lungs ; respiration was then re-established and after coughing and bringing up the mucus that had accumulated below the obstructions, she breathed freely and easily. We were so pleased with this result that we called the parents in to see their child alive again. After a few minutes I noticed a slight flapping in the trachea,—indicating a piece of membrane partially detached; introducing first a feather and then a probe I attempted to dislodge it, but without success. I was unwilling to leave the case in that condition and finally decided to remove the tube to facilitate the expulsion of the membrane,—not however without misgivings. I accordingly removed it and had in a few minutes an experience similar to that I had in my first case but hope never to have again. The child had been breathing nicely and quietly with the exception of this flapping, which did not embarrass respiration, for about half an hour before its removal but on this taking place, respirations ceased. In doing tracheotomy in the ordinary systematic manner a *track* is made down to the trachea, but in this case the operation was done so quickly that the parts had scarcely been disturbed, and, when the tube was removed, slid back again into position and cut off all chance for air to enter. The struggles of the child for air demanded instant relief. I seized my retractors to open the way to the trachea but the way was closed; the parts, in the struggle of the child, had over-lapped. I worked to find the way until the child had succumbed to apnœa and was finally forced to make a second opening into the trachea before I could reintroduce the tube, and having succeeded in this, the case proceeded naturally.

On the second day I was hastily summoned and found the child suffering from inspissated mucus BELOW the tube ; this was easily relieved, and on the fourteenth day I removed the tracheal tube and was about discharging the case when unfortunately the child was exposed in its weak state in a cool room ; pneumonia developed four days after the removal of the tube, and she died on the twenty-first day after the operation and one week after the removal of the tube.

When the membrane forms below the tube, the use of the steam apparatus with a spray of lime water accompanied by the frequent use of a feather passed well down into the trachea to remove the part that may be dissolved, I consider the best treatment. The moisture favors the loosening of the membrane and the lime water certainly has a *slight* solvent effect and in a few cases may help keep the trachea patent enough to support life until the membrane exfoliates, as happened in my last case.

We can expect a successful result in a very small proportion of these cases, but that it is not invariably fatal is shown by my last case in which the wound and the trachea was covered for awhile with a membrane, and by other reported cases, so that hope must still nerve us to do everything that may carry the case through successfully.

Instead of placing the child in bed after the operation I have the operating table covered with a blanket or small mattress and keep the child on it for several reasons:—1st. The child can be attended to so much easier; 2d. The steam spray apparatus can be brought nearer to the tube than when the child is in bed; 3d and not least, the nurse can see the necessity of watching the child to prevent her falling and is thus kept awake and to her duty. This may seem a superfluous remark but where we have not trained nurses every means that can be adopted to keep our inexperienced nurses up to their duty through the long and weary days and nights of anxious watching in these cases must be adopted.

Nourishment.—I have generally allowed the child to take plenty of milk, eggs, beef-tea, etc.

During the first few days, milk, beef-tea, meat-broths, etc., seem to meet all indications if given at regular intervals, but as I have before remarked on the third to the fifth day, due probably to anesthesia of the epiglottis and larynx, the fluid taken passes in part into the trachea and it is at this time that semi-solid food must be used, and if this does not suffice, the use of the rubber catheter passed into the stomach as I have before remarked may be indicated.

Tracheotomy is an operation that should not be done without mature deliberation,—for although I hold that tracheotomy *per se* is not a serious operation, yet a little neglect will allow a fatal issue to take place even when no serious disease like diphtheria is present. I therefore would say that tracheotomy in croup should be successful except where death takes place from the systemic disease itself, extension of the membrane, or, asthenia. That I have not reached this standard is very manifest from a consideration of my fatal cases and I therefore propose to discuss the cause of death in each of these cases,—attempting to show how much more successful the cases would have been, if a better surgeon had attended them and they had been surrounded by better circumstances and better nursing. In other words, that tracheotomy for croup is not necessarily the fatal operation that it is thought to be.

Patients Nos. 2, 3, and 6, died from an extension of the diphtheritic membrane below the tube, the symptoms of obstruction reappeared and the patients died from the same cause and in the same manner that they would have done if no operation had been performed. I used steam and lime-water by inhalation, and in one case (No. 6), lactic acid and pepsin in solution, were dropped through the tracheal opening on to the membrane without any appreciable diminution of the membrane.

Nos. 4 and 7 died from diphtheritic poison, the operation relieved the terrible sufferings from dyspnœa and the patients died easily and quietly twenty hours afterwards. If operations are justifiable when they prolong life and lessen suffering, then tracheotomy was indicated in both these cases, but cases 1 and 5 died from preventable causes.

Case 1. Saturday afternoon, November 16, 1878, I received word that a child with croup was choking. Dr.

F. Van Fleet (then a student) being in my office accompanied me. I placed a tracheotomy tube in my pocket and hastened to the place. I found the child cyanotic, unconscious, moribund (they had called me to avoid the necessity of a coroner). I asked them if I should do tracheotomy and permission was given. The trachea was opened and the tube introduced but the child did not recover consciousness for a half hour after the operation. I called again in the afternoon and found the child sitting up in bed as bright a looking little fellow as one would wish to see. In the evening he was slightly feverish, but there was no dyspnœa. The next morning (Sunday) I found the child with labored breathing but as it was due to inspissated mucus, the proper use of the steam spray and a feather soon relieved him entirely; in the evening I was again compelled to do the same thing and left him for the night breathing well. Hearing nothing from him during the night I started to make that my first call in the morning but met the father coming for the death certificate. Enquiry revealed the fact that inspissated mucus in the tracheotomy tube was the cause of death. In answer to the question "Why did you not send for me when you saw the child growing worse?" he said "I thought you were at church and I'd not like to disturb you."

This case died from *neglect* and I think it is a type of a large percentage of deaths after tracheotomy. In my successful cases it was only with the greatest difficulty that moist air could constantly be kept supplied to the patient. In my last case, no less than five times was the child on the verge of death and rescued only by the timely arrival of either my assistants (Dr. G. H. Cocks and Dr. Beekman) or myself.

I wish therefore again to lay stress on the fact that "Eternal vigilance is the price of success" in tracheotomy.

Case No. 5 died because tracheotomy was not properly done, or, rather from the shock of a prolonged operation. The case was a favorable one but in opening the trachea

I did it below the isthmus of the thyroid and so low that when the child's head was placed on a pillow the trachea descended slightly and the tube slipped out; I noticed the difficult breathing and on finding the tube out replaced it, but it would not remain; I therefore placed her again under chloroform and after resecting a part of two tracheal rings and stitching the trachea to the edges of the wound, the dyspnœa was relieved but death took place the next day from the combined effects of shock and diphtheria.

Clinical Lectures.

CHRONIC GASTRO-INTESTINAL CATARRH IN CHILDREN.

A CLINICAL LECTURE DELIVERED AT THE CHILDREN'S HOSPITAL, PHILADELPHIA.

BY LOUIS STARR, M. D.

Lecturer on Diseases of Children in the Post-Graduate Course, University of Pennsylvania. Reported by William H. Morrison, M. D.

GENTLEMEN:—I shall to-day show you two cases illustrating one form of disordered digestion, and shall begin with this child who is eight years old. She was in moderately good health up to one year ago when her present illness began. She however, has had for a long time a chronic nasal catarrh, but it is unnecessary to refer further to this to-day. Since the time mentioned, she has suffered from the effects of disordered digestion; her appetite has been poor, being worse in the morning and slightly improving towards evening, and she has had moderately frequent attacks of vomiting, the ejected matters being yellowish or greenish in color and having mixed with them a large quantity of mucous; these attacks have occurred about once a month. The bowels have been constipated, acting about once in every three days. The stools have not been examined. Her face has often become pale, at times her cheeks were flushed, and the appearance of black rings about the eyes was quite common. She did not sleep well of nights, but often roused up, screaming as from fright, and during sleep gritted her teeth. So far as is known, no intestinal worms ever appeared with the fæces. She also complained of pain in the epigastrium and of severe headache. Such is the history obtained from her mother.

As you look at this child, she does not seem to be *emaciated*, yet, on the other hand, she is not in good case, her limbs being thin and her muscles flabby. She is a spare, rather than a wasted child. Her skin is pale and around the eyes there is a peculiar dark ring looking almost as if the parts had been painted with a thin solution of India ink. When she protrudes her tongue, you observe that it is flabby and pale, presenting uniform frosting through which can be seen reddened and enlarged fungiform papillæ. Examining still further, you find that the lymphatic glands below the angle of the jaw are enlarged on both sides

These symptoms, viz. the spareness, the pallor, the dark circles around the eyes, the flush of the face, the peculiar condition of the tongue, the enlargement of the lymphatic glands, the poor appetite, the occasional vomiting of yellow, or greenish matter with mucus, the constipated bowels, the pain in the abdomen and the restlessness at night, all point to one condition of the gastro-intestinal mucous membrane, namely a chronic catarrh.

In chronic gastro-intestinal catarrh, there are sometimes other symptoms in addition to those presented by this patient. For instance there are two conditions of the tongue which are typical of this condition. In one class of cases, the organ presents the same general appearances as you see in the patient before you, but in the middle of its dorsum there is a shining bare patch about the size of one's little finger nail, which looks as though a portion of the white coating had been scraped away with a knife, leaving the filiform papillæ smoother than elsewhere. In the other class of cases, the tongue, still showing the enlarged fungiform papillæ, has a somewhat whiter coating than is seen in this child, but around the edges this has disappeared in regular patches. Such a tongue looks "worm eaten" or suggests the idea that an insect has travelled around the edges, eating away the frosting. When you have either of these two conditions of the tongue you can be almost certain of the diagnosis without further examination.

The characters of the ejecta also often afford valuable information. The stools, usually passed at moderately long intervals, are scanty, hard, often pale from lack of bile, though sometimes they are almost black, and are covered with a layer of mucus. The vomited matters always contain mucus, which appears in long stringy, glairy masses.

There are still other symptoms, to explain which, let us for a moment look at the causes of the disease. Whenever food is taken into the stomach, there is, as you know an increase in the amount of blood in the vessels of its mucous membrane. If the food be irritating, this normal congestion may pass beyond the healthy point, and the primary stage of catarrh results followed by a hypersecretion of mucus. In this way these cases of chronic catarrh begin, being usually produced by improper feeding, the food being either faulty in amount or in quality. As a rule, in patients of the poorer class, it is due to the use of food which is too strong. The children are allowed to sit at the table and partake of whatever the older people eat, probably meat two or three times a day with potatoes, both badly cooked. This irritating food entering the stomach, requires a long time to be digested, and causes irritation attended at first by congestion and subsequently by an excessive secretion of mucus. The undigested food next passes from the stomach into the intestines causing the same effects.

If the child has taken improper food but once, the whole trouble will be relieved by an attack of vomiting or of diarrhœa, expelling the offending matter and the mucus from the stomach and intestinal canal, and then the mucous membrane soon returns to its normal condition. Too frequently, however, the same diet is continued. It may perhaps, be stopped while the acute symptoms are present, but as soon as the appetite returns the same kind of food is again taken, the brief attacks are repeated and the catarrh gradually passes into a sub-acute and finally into a chronic form.

Under such circumstances, if we could look at the interior of the intestinal tract we would find its whole mucous membrane covered with a thick and tenacious layer of mucus, and whatever food happened to be within the tract would be seen more or less enveloped in the same material. Now you can readily understand how the coating of mucus must interfere with both gastric and intestinal absorption, and how the envelope must prevent the free access of the gastric and intestinal solvents to the food. Further you know that mucus is capable of acting as a ferment, and it so acts when brought into contact with fermentable substances, especially farinaceous articles of food, at the elevated temperature normal to the interior of the body. This fermentation produces certain gases, notably carbonic acid gas, and acids; the latter being irritants, re-act upon the mucous membrane, increasing the catarrh and production of mucus.

It is easy to forecast the symptoms that would result. In the first place, the impeded absorption and digestion will be attended by evidences of failing nutrition;—for instance, the spare frame, the flabby muscles and the pale skin seen in the little patient before you, or the harsh skin, the dry hair, and the general feebleness and lassitude to which your attention will be drawn in other cases. Secondly, fermentation occurring in the stomach will be attended by eructations of gas alone or of gas accompanied by small quantities of intensely sour liquid; the latter causing the patient to make grimaces expressive of disgust, and to work the mouth and tongue as if tasting and swallowing something disagreeable. When the materials to be fermented or the products of fermentation are in excess, the stomach relieves itself by the act of vomiting, and the matter ejected has the characters already described. Finally, the food having only imperfectly undergone the changes proper to gastric digestion and still surrounded by the envelope of mucus, passes into the intestine. Here digestion is still imperfect and fermentation still goes on, producing pain and flatulent distention. The pain may be constant or paroxysmal, may be severe and colicy or only amount to slight discomfort, and may be general or confined to certain parts of the abdomen. Usually it is rather paroxysmal, moderately severe only, and is seated in the left or right hypochondriac region; the reason for this location being, that, in both positions, but especially the former, the colon makes a sharp turn where the gases, liberated by fermentation, become lodged. The distended belly stands in marked contrast to the generally spare frame.

The last symptom due to the presence of an excessive quantity of mucus and imperfectly digested food, is constipation. The reason for this is, that the undigested food is, as we have seen, enveloped by mucus, the interior of the intestinal canal is coated by the same substance, thus there are two slippery surfaces in contact, and when the peristaltic movements occur, the food is not readily forced along the canal and remains longer than natural in the intestines.

With the impared nutrition, depending upon the fact that the food is not properly digested and absorbed, there is a tendency to general debility affecting all the other organs and this weakness is especially seen in the mucous membrane of the bronchial tubes, consequently after any little exposure, an attack of bronchitis is apt to occur.

In treating chronic gastro-intestinal catarrh there are several indications to be fulfilled. Since the excessive secretion of tenacious mucus is the prime cause of the symptoms, our efforts must be directed to the liquifaction of this secretive, to its expulsion from the intestine and to the preventive of its reformation. In the alkalies, we possess the means of accomplishing the first; in the laxatives, the second; and in the simple bitters, the third. These different medicines may be combined as in the following prescription, which I shall order for the patient in hand, viz:—

℞ Sodii Bi-carb. ʒi.
Ex. Sennæ Fld. fʒiij.
Infus. Gentian. Comp. q. s. ad. f℥iv.
M. Sig.

Two teaspoonfuls to be taken three times a day before meals.

In addition to giving such remedies you must remove the cause of the disease, in other words, you must stop the injurious diet. Of course the articles of food especially to be avoided are those containing starch, as they are most prone to fermentation. The albuminoid articles are affected less than the starchy, and milk is affected least of all. A child of the age of our patient should be placed on a diet of milk, eggs, meat broths and a small quantity of bread. I should advise for *breakfast,* at seven o'clock, one or two glasses of milk guarded with one-third lime water, (partly for the purpose of breaking up the curd, but chiefly for its effect upon the mucus) the yolk of a soft-boiled egg and a slice of stale bread. For *dinner,* at two o'clock, a mutton chop, or a piece of broiled beefsteak or rare roast beef without fat, and a slice of stale bread, with water to drink. Alternating with meat for dinner, you may give, on different days, chicken, beef or mutton broth, taking care that all of the fat be removed. For *supper,* at seven o'clock, the same articles as for breakfast; milk-toast may be substituted for the stale bread. If the child be hungry between meals, a glass of milk and lime water may be taken. For thirst nothing should be allowed but filtered water. This will be our plan of diet in this case.

There are still two points to be referred to, namely, the clothing and bathing. As the skin is pale and dry and its power of resisting changes of temperature much impaired, long wollen stockings, a merino or canton flannel shirt, with drawers of the same fabric must be worn so that the whole surface of the body may be covered with woolen material. The child should be bathed twice a day; one full bath in the morning and a sponge bath in the evening, after which, the surface of the abdomen should be well rubbed with warm sweet oil.

Sometimes there are complications which demand treatment. For example, instead of pallor of the skin, there may be a slight jaundice, indicating that the catarrh of the duodenum has invaded the bile duct. Under such circumstances I should substitute for the bicarbonate of sodium, chloride of ammonium, in doses of from five to ten grains. This remedy usually acts upon the liver and produces free evacuation of the bowels. If the stools should remain clayey, I should use podophyllum, giving one twenty-fourth of a grain of the resin with four drops of alcohol and a teaspoonful of syrup, once or twice a day.

The next patient is also eight years old and her mother states that she has, every winter, an attack like the one from which she is now suffering. She gets pale, loses flesh, becomes weak and has a sore mouth. Occasionally she vomits. The bowels are moderately regular. Her urine is dark colored and concentrated, and its passage is attended with a burning sensation in the urethra. There is pain in the abdomen, most severe in the umbilical and hypochondriac regions. In the evening her cheeks are flushed. During the summer she is quite well and gains flesh. She lives in a healthy locality so that we can leave malarial poisoning out of the question.

About one month ago she began to lose flesh and fail in strength, and now she cannot walk any distance without becoming exhausted. Her muscles are flabby. Her skin is pale and there are dark circles about her eyes. The glands beneath the angles of the jaw are enlarged. The tongue is covered with a light frosting, through which the enlarged and reddened fungiform papillæ are seen, and if you will look a little more carefully, you will see that it is generally redder than in the first patient. There is also an aphthous ulcer on the lower lip which appeared a few days ago. Her appetite is poor and she has pains throughout the abdomen especially at the bends of the colon. These pains are liable to exacerbations, when there is some difficulty in voiding the urine; this fact you will often notice during attacks of colic, the urine being scanty while the pain lasts, but secreted freely when it has passed away.

In this case we have again presented the symptoms of chronic catarrh, but the occurrence of aphthous stomatitis and the condition of the tongue, show that in addition there has recently been an intercurrent acute exacerbation probably resulting from some error in diet.

This child will need a somewhat different treatment; I shall regulate the diet, order bathing and frictions and the use of proper clothing as previously described, but in the way of medicine I shall prescribe the following:

℞ Ammonii Chloridi, ʒij.
Ex. Sennæ Fld. fʒij.
Aq. Menthæ Pip., q. s. ad. f℥iij.
M. Sig.

A teaspoonful to be taken before each meal.

I omit gentian because in this condition of acute catarrh it is apt to irritate the stomach and do harm. For the stomatitis, I shall order a mouth wash consisting of half a teaspoonful of chlorate of potassium in a tumbler of water.

As soon as the acute symptoms are relieved some preparation of iron with quinine or other bitter may be used. A good prescription is nux vomica, two and one half drops with dilute muriatic acid, five drops, in a teaspoonful of cinnamon water. To sum up, my plan of proceeding will be to give the alkaline mixture until the tongue becomes cleaner and the aphthous ulcer heals, then substitute the compound infusion of gentian for the peppermint water in the formula which I have given, and continue this until the tongue become entirely clean and the abdominal pain disappears. I shall then give the combination of nux vomica and acid which I have just mentioned and keep this up until the child be perfectly well.

Particular care must, of course, be taken with this child in the fall of each year, for the catarrh leaves the mucous membrane of the stomach and intestines peculiarly susceptible to slight irritants. The reason that she is better in the summer is, that, at this time of the year, she is more out of doors, takes more exercise and is therefore better able to digest her food than in the fall and winter. During the latter seasons, too, she is more liable to be exposed to sudden changes of temperature.

It was formerly the custom to begin the treatment of these cases with a combination of pepsin and muriatic acid instead of the alkalies and bitters, but this did not answer so well and patients did not recover so quickly. For this reason that the former simply acts as an artificial digestive fluid and is merely palliative, while the latter strikes at the root of the trouble.

As soon as the digestion is in good order, the child usually builds up quickly. If it should not, some form of iron, as the tincture of the chloride, ferrated elixir of cinchona or bitter wine of iron, may be administered.

Another form of iron which frequently acts well in these cases is the sulphate in doses of one-sixth of a grain. Even when the tongue is not perfectly clean, this preparation is beneficial if combined with laxatives as in the following formula:

℞ Ferri Sulph. Exsiccat., gr.iv.
Tr. Aloes et Myrrh, fʒiv.
Syr. Rhei Aromat., q. s. ad. f℥iij.

M. Sig. A teaspoonful to be taken three times a day.

In this prescription we have an astringent action, from the iron and rhubarb, which tends to check this formation of mucus; a laxative action from the aloes and rhubarb, keeping the bowels clear of mucus and undigested food; while the myrrh is a direct tonic to the relaxed mucous membrane.

Clinical Memoranda.

EXPIRATORY DYSPNŒA FROM ENLARGED BRONCHIAL GLANDS IN A CASE OF GENERAL TUBERCULOSIS AND EMPYEMA.

BY WM. P. NORTHRUP, A. M., M. D.

Pathologist to the New York Foundling Asylum.

This case was regarded as "one of those queer cases," and was examined by numerous physicians with great interest.

The record runs as follows:—

Male child, two-and-one-half years old, New York Foundling Asylum. Admitted to the institution May 4th, 1881, in fair condition. Had whooping cough in February, 1882, from which he made a good recovery. In July, 1882, child was recorded as "anæmic—furuncles of face—diarrhœa." Was well again till May, 1883, when he had measles followed by persistent broncho-pneumonia, signs of consolidation most marked on the right side. During this sickness was cared for by a nurse out in the city. Her physician treated the child for *malaria* for a month. He was then brought to the Out-door Department and a diagnosis of phthisis was made and following note recorded: "Poorly nourished—cough—consolidation at right apex—rales over both lungs—night sweats." Child was then removed to the country. August 7, 1883, was returned to the hospital wards of the asylum with the diagnosis of chronic pneumonia. Very much emaciated, marked dullness over both lungs behind, most marked over right. Over upper half of right behind bronchial breathing.

Everywhere were to be heard dry rales and rude respiration. A striking peculiarity of the case was a prolonged expiratory wheezing very like an asthmatic patient. It may here deserve the remark that there were no moist rales throughout the case, unless they were covered by the loud wheezing. The general appearance of the child and the physical signs continued uniformly the same until two or three weeks before death (about seven weeks from entrance into hospital.)

During this latter period the dyspnœa seemed somewhat relieved so that the nurses remarked that the child was getting better.

Throughout the whole stay in hospital the cough was severe, without trace of whoop, paroxysmal in character, "precisely like an old bronchitis patient." There was occasional diarrhœa—no brain symptoms.

He gradually failed and died of exhaustion—about five months from the attack of measles.

Autopsy, August 17th, 1883.

Body—Emaciated, hatchet faced, thorax unusually prominent.

Brain—Not examined.

Lungs—On opening the thorax both lungs are found adherent over nearly their entire surfaces: behind the lower two-thirds of the right an encapsulated empyema of about ℥iv. capacity. Contents thick, creamy with little floating masses of coagulated fibrin. Ulceration of the posterior wall of the cavity lays bare the bone of the ribs and lateral surfaces of the bodies of the vertebrae. The cavity is skirted above, on the outside and diaphragmatic surfaces by firm adhesions and much-thickened pleura.

Along the trachea, from the level of the apex of the lungs down to an inch below the bifurcation, is a nodular mass clearly adherent to the trachea and right lung. This is found to be made up of lymphatic glands, enlarged and cheesy. The trachea and bronchi opened along their posterior aspect. Mucous membrane is found to be congested and covered with tenacious mucus.

On the anterior aspect of each bronchus and half an inch from the bifurcation is a round, clean-cut hole.

These are found to communicate with a large irregular cavity extending above and below having a capacity of about ʒiii. The cavity, or labyrinth of cavity, is formed of broken down agglutinated glands that have emptied their contents, through two holes, into the bronchi. Nowhere is there any connection with the small bronchi along the surface of the lung. The calibre of the two bronchi is not diminished. The largest glands seem to be in the angle and anterior to the bifurcation.

The right lung, when cut through from before backward, shows in the anterior third, aërated lung sprinkled with opaque, cream colored, rounded bodies, varying in size, much smaller and two or three times larger than ordinary miliary tubercles. The posterior third is mostly hepatized, that portion bordering on the empyema carnified. Left lung in posterior third, is hepatized, many of the bronchi filled with pus. The remainder is aërated and shows disseminated miliary tubercle.

Heart—Normal.

Spleen—Adherent to lower ribs and to a fold of peritoneum extending from the ribs to the flexure of the colon. Size normal, color dark. Beneath the peritoneal covering and on cut surfaces are large and small cream-colored bodies like those described in the lungs.

Liver—Color dark, peritoneal surface bluish, "washed out" appearance, superficial veins dilated. Gall bladder moderately distended with a watery-viscid fluid scarcely tinted with bile. No tubercles seen.

Kidneys—Left slightly larger than right—normal. Right, markings of cortex indistinct, pale, pyramids pale, capsules not adherent.

Stomach—Cardia, scattered follicles which appear pigmented. Elsewhere the mucous membrane is pale, coated with tenacious mucus, increased in amount.

Intestines—Mesenteric glands enlarged, some of them cheesy. In the small are scattered areas of ecchymosis, the contents greenish tough mucus. The mucous membrane thin, pale, "washed out."

In the large gut are numerous superficial ulcers in the upper third. There are six to eight intussusceptions in the small intestine occurring in the "death agony."

Microscopic Examination.

Spleen contains small and large tubercles, the small having giant cells, the large having cheesy centres and as a rule giant cells.

Liver—To the unaided eye no tubercles appeared, but under the microscope there are numerous small tubercles with giant cells.

Lung—Here the lesion is complex—(1) There are very small (microscopic) rounded, definitely circumscribed bodies, made up of tubercle tissue and giant cells. (2) There are large rounded masses, twice the size of ordinary miliary tubercles, with large cheesy central areas surrounded by tubercle tissue skirted with hepatized lung. In these there are but few giant cells. (3) Ordinary broncho-pneumonia with infiltrated bronchi and dilated blood vessels and duffuse pneumonia : large areas of alveoli filled with blood cells. (4) Whole lobules in which the bronchi are filled with pus, alveoli are dilated and packed with pus. These from their dependent location and general appearance are probably filled with pus from the large bronchi. (5) Tubercular peribronchitis.

Kidneys and *stomach* do not show anything but postmortem changes.

Remarks—Present at the autopsy Drs. O'Dwyer, Chadbourne and Blodget. It is the opinion of all present that the enlarged glands before rupture may have and probably did press upon the bronchi from before backwards, diminishing their calibre and giving rise to the peculiar signs above described. Another theory suggested was that the air rushing past the two clean-cut holes opening into a cavity might give such signs.

Again, the bronchial glands after rupture no longer exerted pressure, the calibre of the bronchi resumed its normal shape and the dyspnœa disappeared.

In connection with this case the reader is invited to consult Meigs & Pepper's Dis. of Chil., article on Bronchial Phthisis under Tuberculosis, also Dr. Delafield's Pathological Studies, article Acute Phthisis.

Translations.

BY AND. F. CURRIER, M. D.,

New York.

Baginsky: Concerning the Relation of Pediatrics to General Medicine (*Archiv. für Kindhlkde.*, B. IV. H. 5 and 6.)

(The following is abstracted from a lecture delivered Dec. 6, 1882, in the hall of the Frederick William University at Berlin:)

At the present time, says the author, when the question as to the division of labor is, or has been under discussion in respect to the science of medicine as well as in other fields of human labor, it may be said that there can be no impropriety in such a division, into departments, each of which can be managed more or less independently of the others. If fear should be expressed that there is not *room* for all the departments of specialties which have been projected, we should remember that every well ordered plan which either confirms the fundamental principle of medicine or widens their scope, is of value and will lead to the advancement rather than the deterioration of science. The danger in the subdivision of medical science into separate departments or specialties lies either in a possible tendency to unscientific empiricism, or in too great a devotion to work which is of an unproductive character—as for example, when a single organ is so carefully interrogated that its relation to the entire organism is overlooked. Pediatrics, however, which includes in its compass all the diseases which occur in the early period of life is not threatened with this danger. If we turn our attention to anatomy, we find, in the transformation of the human body, from the earliest childhood to the beginning of adult life, material of the highest interest, and this is particularly noticeable in the development of the various members of the skeleton, and in their variations from the normal. If from the skeleton we turn to the internal organs, here too we are confronted with a fund of most important facts, which have been made especially clear by Beneke's painstaking investigations. To express his idea, we find, from year to year, variations in the relative size of the different organs to each other, as well as in their relation to the entire weight of the body; and in this fact, doubtless, lie the conditions for the different physiological phenomena of life at its different periods, as well as for the so-called tendency of a particular age or period of life for particular diseases. This fact is illustrated by the relations of the heart and arteries, at the different stages of life preceding puberty. In the field of physiology, too, the study of pediatrics is shown to be one of great interest and importance, and the researches of Vieroidt, Fritz and Hitzig, Soltmann and others are alluded to as proof of this assertion. In pathology we meet with a class of affections which is seldom or never brought to our notice among adults, for example, the large group of diseases peculiar to the newly-born; the acute exanthemata, and various infectious diseases, like whooping cough, etc. We see in the study of these disorders that functional disturbances among children have a far greater significance than among adults. Even in the domain of surgery the diseases of children present peculiarities, as in the bone diseases of scrofulous and tuberculous subjects, suppurative inflammations of the joints, etc. In the department of therapeutics there are also many pecularities, witness the capability to endure mercurial preparations and arsenic, and the extraordinary sensitiveness to narcotics. Many other facts of similar import might be cited. This specialty is by no means of modern origin, for the histories of the Egyptians, Persians, and Indians show the devotion with which it was cultivated among them. From the Grecian period we have received the extraordinary work of Soranus, in which he shows how clearly the fundamental principles of the dietetics of childhood were developed in his time. Rhazes and Avicenna also made important contributions to pediatrics. The works of writers from the seventeenth century onward are too well-known to require individual mention. In spite of this accumulation of facts, new ones are being added almost daily. The author concludes with the remark that it is only a question of time before the ancient plan of appending the study of pediatrics to that of internal medicine or gynecology will be abandoned, when it will hold that independent position which it deserves.

Bohn: On the Etiology of Eczema in Early Childhood. (*Jahrbuch für Kindhlkde., und physieche Eigiehung*, B. XX. H. 1.)

The disease referred to is the commonly seen eczema of the head and face which occurs during the period of suckling, and that which immediately succeeds. It is found in all stages, from the simple roughening of the skin, to the forms E. rubrum, madidum, squamosum, etc. The familiar phenomena in the papulo-vesicular variety so common among children are too common for repetition. The author considers that the impetiginous variety however, is the most frequent. In this form the underlying corium is bathed in the muco-purulent or purulent secretion; and new pustules are constantly being formed, while the crusts increase in size by the addition of dust, fat, and blood, and become colored grey, brown, green and black. The crusts often cover the entire scalp like a cap and this, with the involvement of the cheek, the nose, the forehead, the entire face, forms the familiar picture which has long been known as crusta lacta, milk scurf, porrigo larvalis, melitagra flavescens or nigricans. General eczema involving the entire body, in very young children, is not so common. Cases are by no means rare, however, in which there seems to be no portion of the skin upon the entire body which is free from the disease, in a more or less exaggerated form. As to etiology, the author thinks that scrofula is responsible for many cases of eczema, but not for those forms which have just been described, since he has been referring to a period of life in which scrofula does not usually show very great force. Likewise rachitis is not to be looked upon as a causative factor. Sufferers from the disease under discussion are commonly breast-nourished children, with full round forms, and are often of fine physical development. The disease, though irritating, does not seem to interfere with nourishment, for they suckle freely, increase in weight and cut their teeth at the proper time. The stools are very apt to show a decided *torpor intestinalis.* Taking into consideration all the phenomena of the disease, infants possessing it may be said to show the legitimate picture of polysarcia adiposa. The author thinks that in many cases the cause of this excessive development of fat is also an etiological factor in the production of eczema. In cases in which an excessive development of fat and eczema are associated with an exclusive milk diet, it may be well to add, between meals, a little bouillon, cocoa, thin gruel or some equally harmless preparation.

As an experiment one may also add a little finely chopped meat at an earlier period than is customary in ordinary cases. Even a modified kind of *Banting cure* has been successful with the author in some cases. Treatment directed to the torpor of the intestines, has in some cases proved efficient to the cure of the eczema. To accomplish this the author has used enemeta of water and rhubarb, and the syrup of rhamnus catharticus per orem. For local applications, the author recommends either a mixture of equal parts of lime water and linseed oil and an ointment of lead and zinc, or an ointment consisting of vaseline and twenty per cent. of boracic acid. In addition only oil and cleanliness are necessary. No warm baths are to be allowed. Arsenic and mercury are highly recommended by the author for particular cases, but the disease sometimes recurs after this treatment. He admits that the intimate relation between polysarcia and eczema is not yet fully proven, but there are some indisputable facts that this relation has existed in certain cases. Among adults there is no casual relation between excessive development of fat and eczema, the reason for which has not yet been ascertained. The idea in this paper seems to be, that the chief factor in the production of eczema has to do with the functions of the intestines. These organs, among such infants as have been referred to, are almost always inactive to an unusual degree, and the secretion of bile is very much lessened on account of the fatty liver which usually co-exists with the polysarcia. Under these conditions, an eczema may be developed with as good reason as does eczema of the head among women at the climacteric. The cause for the disease in infants may, *possibly*, be due to the active arterial fluxion, which is so important at this period, for the proper development of the head, its contents and its dependents.

Ballard : The Etiology and Pathology of Summer Diarrhœa in Children. (*Resumé in Révue mens. der mal. de l'e., Oct. 1883.*)

The paper, of which this is an abstract, formed the opening to a discussion at the late meeting of the British Medical Association in Liverpool, Aug., 1883. The investigation of this subject has been in progress during the last two years, and is still far from finished. Some of the conclusions are as follows, the disease cannot be considered a simple dyspepsia, it is an affection of the system at large, and can, in less than twenty hours, produce lesions of considerable magnitude. Autopsies have, unfortunately, been too infrequent, but they have demonstrated that the pathology of the disease is somewhat analogous to that of cholera. It is an open question whether the same can be said of its etiology. The disease is not the result of a relative lack of attention, which happens to children in the great manufacturing centres; for example, while three such centres, Leicester, Nottingham and Preston, head the list of infant mortality from summer diarrhœa; three other centres, not less important, Oldham, Rochdale and Halifax occupy the foot of the same list. Feeding-bottles have also been strongly incriminated, but this cause is far from being the rule now, thanks to the efforts of public medicine and of practitioners. Artificial alimentation is mentioned in this report as a decided cause of mortality. At Leicester, with a mortality of three hundred and forty-one children from the cause in question, only two per cent. of the sufferers were fed with breast milk. Cows' milk, which formed the nourishment of sixty per cent. of them, is far from being a faultless means of nourishment. The influence of elevated temperature is undeniably efficient in producing this disease, and that influence remains, even after the severe spells of heat have ended, continuing into the months of autumn. In general terms, however, it may be said that in the great cities the maximum of heat in July, will have a direct bearing upon the maximum of mortality from infantile diarrhœa. The fetid exhalations of sewers have been accused, by certain hygienists, as the cause of this trouble, and while one cannot say that the charge is groundless, it is to be observed that Nottingham, which possesses no sewers, has a high death rate from infantile diarrhœa. Excrementious odors are also influential in producing this disease, but are not the most potent cause, since Nottingham, from which excrementitious matters are regularly removed twice a week, and in which these odors are unknown, has a high death rate, as already mentioned, while Helston, which would seem to be one of the most infectious localities in the United Kingdom from this cause, suffers very little from infantile diarrhœa. The conclusion or quasi-conclusion which is reached is that more light from autopsial investigations is necessary in order that the etiology of this disease may be fully determined.

Demme : Can the early and subsequent employment of the Acetate of Pilocarpine limit the extension of the local process in

genuine Diphtheria, and prevent its extension from the pharynx to the larynx? (*Resumé in Jahrbuch f. K., u. p. E.* B. XX. H. 2.)

The author in this paper makes an additional contribution of a new series of experiments touching the specific effect of pilocarpine in true diphtheria. He attributes the occasional favorable consequences of the pilocarpine treatment, not to any specific effects which it may have, but to the saturation of the mucus membrane on account of its diaphoretic and expectorative action. His investigations were concerned in nineteen cases of primary pharyngeal and seven cases of primary laryngeal diphtheria, upon the persons of patients who belonged to the Children's Hospital and to the Poliklinic, and also to his private practice. The ages of the children ranged from eight months to nine years. Three of the cases ran a light, seventeen a severe course; six became rapidly and fatally intoxicated with the poison of the disease. The treatment of these twenty-six cases, aside from the cold baths and envelopments for anti-pyretic purposes, consisted in the local use of ice about the neck, and continuous inhalation of the vapor of luke warm lime-water, and in the exhibition of a solution of muriate of pilocarpine, usually by the mouth, but occasionally under the skin, in daily doses of from gm. .01 to gm. .03, according to the age and constitution of the child, though in one case in a child seventeen months of age, the dose was increased without harm, to gm. .05. In the case of nine patients with primary pharyngeal diphtheria, the author's earlier experience upon this subject, published in a previous article, was abundantly verified. All the other cases, with four exceptions, failed to be benefited at all by the pilocarpine treatment. The impossibility of preventing an extension of the disease to the larynx by the use of this drug is manifested in the fact that in eleven of the twenty-six cases, tracheotomy was required. Hence the question as to a specific effect of pilocarpine upon the diptheritic local process must be decided in the negative. On the other hand the favorable symptomatic effect of the drug upon diphtheria cannot be denied, in that it works, at times, as an expectorant, at other times as an emetic. The individual susceptibility to the action of the drug varies greatly. In one case a single dose of gm. .001 resulted in a violent attack of vomiting, with serious symptoms of collapse, while in another case a daily dose of gm. .1 produced no disturbance of the general condition, and hardly an increase in the secretions. Upon the ground that the drug will in some cases produce collapse, the author considers a tendency to failure of the vital forces as a contra-indication to the pilocarpine treatment.

Schenker (Basel) : **Contribution to the Operative Treatment of Pleuritic Exudate in Children.** (*Jahrbuch f. K. u. p. E.* B. XX. H. 2.)

This operation is of sufficient antiquity, and was practiced by surgeons in early times with varying, but usually with poor success, until the era of Listerism. Like all other surgical measures it has also shared in the beneficient results which that era inaugurated. Three questions are to be considered in connection with such an operation, 1, when; 2, how; 3, where must one operate. As to the character of the exudate, the author concludes that we have no certain means of knowing in a given case, except by means of an exploratory puncture. The instrument for making the puncture should, of course, be properly disinfected. The location, in the author's opinion, should always be where it is intended to make the cutting operation. He approves, as the most favorable location, of the seventh, eighth or ninth intercostal space, posteriorly, and prefers to have the child in a sitting position for the operation. If the cavity contains serum, no incision will be desirable as it can be removed with a suitable aspirator. There is a difference of opinion among authorities as to the choice of operation, whether aspiration or incision, when the exudate is purulent. Biedert prefers the incision, and many agree with him that it is the only method by which empyema can be radically cured. In performing the operation the patient should be partially narcotized, and after proper disinfection, an incision four or five centimeters in length is to be made, through the skin, parallel to the ribs, at the most suitable point in the field already described, which should be nearer the lower than the upper costal boundary of the space chosen. The incision through the pleura should be only one centimeter in length, but this may be increased to three, if necessary. Subsequent irrigation of the pleural cavity is desirable, with a one per cent. lukewarm solution of thymol. It may be necessary to resect a portion of a rib from two to three centimeters in length in order to obtain a free flow of pus, a drainage tube being inserted into the pleural cavity and properly secured. The wound is protected by salicylated cotton dressing and suitable bandaging. An operation for the same purpose, which is sometimes practiced and is recommended by the author, is done with a trocar and canula constructed for this purpose, the canula remaining as a drainage tube. As to the after treatment it consists mainly in changing the dressings often enough to prevent decomposition.

Hofmeier: Jaundice in New-born Infants (*Zeitschrift für Geburtshülfe und Gynäkologie*, B. VIII. H. 2.)

The author does not agree altogether with the various theories concerning the hepatogenous or hematogenous origin of jaundice. According to his views they express too great confidence in unproven theories, or are one-sided in regard to individual phenomena and local processes. The following facts were ascertained by the author after an extensive series of investigations upon icteric children during the first ten days of life. There is a decided loss of weight during the first few days and a great increase of urea, uric acid infarcts, and albumen. A constant phenomenon is the excretion of a yellow coloring matter with the urine which varies in quantity with the intensity of the disease. Any impropriety as to the nourishment of the child is attended by a corresponding loss of albumen. This loss is accompanied by a loss in the body-weight. The loss of albumen affects the albumen of the blood-plasma, and also the red blood corpuscles. The longer these processes last and the more intense their action, the greater the destruction of red corpuscles. There is also an active production of new corpuscles. Though the destruction of red corpuscles is a loss only in a physiological sense the discharged coloring matter of the bile represents one of the most essential physiological products of the coloring matter of the blood. In addition to this, with the beginning of the functions of the intestine as an organ of digestion, the secretion of bile is greatly increased and this is rich in pigment. There are, in addition, certain anatomical conditions which favor the passage of bile into the blood, the final result being the discoloration of the skin. In poorly nourished and poorly developed children this discoloration will continue for some time. The process is a pathological one in so far as the passage into the blood of bile, a substance foreign to it, is always pathological. It is physiological, in that the causes are founded in the physiological relations which subsist after birth. Few children are so favorably circumstanced immediately after birth, that they can contend successfully against the extraordinary demands made upon their organs for the first few days of life, solely by means of the nourishment which they get.

Simon: Contribution on the Use of Sulphate of Quinine in Children. (*Révue mensuelle des maladies de l'enfance. Feb., 1883.*)

In cases in which diagnosis is in suspense and therapeutic means fail to accomplish the desired end, the author suggests the desirability of remembering the varied phenomena which malarial poisoning may present, as well in children as in adults. Four cases are cited in demonstration of this important observation. The first was in a child three and a half years of age, who had been suffering with dyspnœa from spasm of the glottis, for twenty days, had suffered greatly, and was often on the point of suffocation. All previous calmative and tonic treatment had been unavailing; there was no fever. The author was called in consultation and advised the use of sulphate of quinine, which was begun by a dose of thirty centigrams given at seven A. M. The three following days the dose was increased to forty and fifty centigrams. The child's recovery was rapid under this treatment. On the fourth day he was well. The second case was in a girl six years of age, the phenomena being those of torticollis, which returned in quotidian paroxysms. It had been unsuccessfully treated for three weeks as a rheumatic affection. The quinine treatment was adopted and the child was cured in eight days. Case three was in a boy seven years of age, who had lived in Algeria, and was undergoing a prolonged convalescence from acute bronchitis. Calmative treatment had been unsuccessful; a rapid cure resulted from the quinine treatment. The patient in *case four* was a little girl four years of age, a native of Colombia, who suffered periodically with bloody stools. Opiates had been tried in vain; this case, like the others, was cured by the use of quinine.

Lindner: Concerning Tracheotomy in Croup and Diphtheria. (*Jahrbuch f. K. u. p. E.* B. XX. H. 2.)

The author discusses in this paper, a series of one hundred and thirteen cases of croup and diphtheria, in which tracheotomy was performed, in most of the cases by himself. About thirty-eight per cent. were cured. In seventy-nine of the cases the most prominent symptom was mechanical interference with the respiration, and of this number forty-nine died. In twenty-two cases, in which the entire system seemed to be poisoned, all died. The ages of those children who recovered varied from a few months to seven years, and the greatest number of recoveries (eleven) occurred in the second year of life. He considers that the most fitting time for the performance of the operation is when there is the first evidence of labored inspiration at the precordia, and he has seen death follow in all cases in which the operation was not done at that time. In all but four cases the operation performed was *tracheotomia superior*, and the author is very well satisfied with this form which was almost invariably performed under chloroform. The after-treatment consisted of inhalations of a two per cent. solution of lactic acid, but he is satisfied that this treatment is harmful in some cases, and therefore would prefer simple inhalations of warm vapor. He considers it very important to remove by aspiration the contents of the air passages, immediately after the introduction of the canula, which procedure should be repeated a few hours later. This aspiration should also be repeated subsequently, as often as indications of the advancement of the disease into the bronchi are evident. He speaks in terms of praise of the use of apomorphine, in the after-treatment of tracheotomy, and uses it in large doses, varying from gm. .08 to gm. .1 in gm. 80. of water, a teaspoonful every hour, or every quarter hour, if necessary, in children who are more than two years of age. He considers that it facilitates the removal of the membranes. A temperature of more than 39° C. on the first or second day after the operation is a bad symptom.

Behm : Concerning Intra-uterine Vaccination (*Jahrbuch f. K. u. p. E.* B. XX. H. 2.)

The author has undertaken to prove experimentally the possibility of inoculating the fœtus with vaccine poison, concerning which possibility testimony, up to the present time, has not been harmonious. He vaccinated in the obstetric clinic of Prof. Gusserow forty-seven pregnant women, and thirty-three children. Of the mothers of these thirty-three children twenty-two were vaccinated at the tenth, ten at the ninth, and one at the eighth month of pregnancy. The vaccination was done by means of a cut. In all but four of the thirty-three mothers the vaccination was successful. Of the thirty-three children, all were vaccinated from the first to the seventh day after birth, and in twenty-five instances with effect. Only two of the thirty-three children were benefited by the *ante partum* maternal vaccination. The conclusion from this experiment is that intra-uterine vaccination is seldom effective. It is also added that the operation had no harmful effect either upon the mothers or the new-born infants. Since the latter show such susceptibility to vaccine and the prognosis in variola is so bad both for pregnant women and for new-born infants, the author, with reason, recommends the revaccination of pregnant women and the vaccination of the newly-born.

Fruhwald: Contribution to the Therapeutics of Iodoform. (*Jahrbuch f. K. u. p. E.* B. XX. H. 2.)

The author reports twenty-six cases of diphtheria which were treated with iodoform in Prof. Widerhofer's clinic at Vienna. It was employed by insufflation, or by dusting; also by applications of a ten per cent. iodoform-ether solution. In some cases, especially in mild ones, there was an early expulsion of the diphtheritic deposit. In others, particularly in severe cases, neither a local nor a general effect was accomplished. Also in one case of a diphtheritic wound, iodoform proved useful as a topical application. In another case of diphtheritic conjunctivitis the effect was less marked. In ten of these twenty-six cases the patients died. Iodoform also proved to be very useful in the treatment of stomatitis ulcerosa, the affected parts being brushed over, once daily, with cotton which had been dipped in iodoform powder. Gelatine bougies containing fifty per cent. of iodoform, six centimeters long, and from three to five millimeters in diameter, were, in certain cases, remarkably effective in vulvo-vaginitis. Unpleasant results were never observed.

Thulie: The Nourishment of Syphilitic Infants. (*Resumé in Jahrbuch f. K. u. p. E.* B. XX. H. 2.)

This subject has been experimentally investigated by the author, under the direction of Prof. Parrot, in a nourricene expérimentale. The experiments verified the general belief that infants so affected quickly die if they are nourished with the bottle. The investigations in question, produced the following data: During the seven months, from the 24th of June, 1881, to the 24th of January, 1882, one hundred and one syphilitic infants were nursed in the institution. First, six of them were nursed with cows' milk from the bottle, one lived, five died. Second, fifty-two were nursed with goats' milk, nine lived, forty-three died. Third, forty-three were suckled by asses, thirty lived and thirteen died. It appears from these figures that the asses' milk is particularly helpful for the nutrition of children affected with this disease.

Henoch (Berlin): **Concerning Diphtheria.** (*Resumé in Jahrbuch f. K. u. p. E.* B. XX. H. 2.)

The author expresses surprise that people should be always on the lookout for a specific for diphtheria, when they have long since given up the search for specifics in other infectious diseases. He thinks that the undue estimation in which certain remedial measures are held, is due mainly to the fact that diphtheria is often confused with other diseases which simulate it. Chiefly is this the case in croupous angina, and, really, in the first days of the disease, it is often very difficult to distinguish it from diphtheria. Specific diphtheritic, and non-specific croupous pharyngitis have certain elements of difference, but they are not appreciable in all cases. The former, in most cases, progresses slowly, with a moderate degree of fever, while the latter usually begins with violent fever. In both diseases, but in the non-specific oftener than in the specific, there is, in the beginning, an invasion upon one side only, and not until after twenty-four to thirty-six hours are both sides involved. The extension of the disease process to the velum, however, especially if the posterior pharyngeal wall be also attacked, renders probable the presence of true diphtheria. The condition of the nasal mucous membrane furnishes the chief criterion, for in the non-specific croupous form, it is never attacked, in the specific form it is usually attacked. Albuminuria is too often absent in diphtheria to be of avail as a means of differential diagnosis. The author also adheres firmly to the belief that specific diphtheria is to be differentiated from the scarlatinous form, though each may quickly follow the other in the same individual.

Abstracts.

Abdominal Tumors in Children.—Dr. E. N. Whittier (*Boston Med. and Surg. Jour. Nov. 29,*) reports the following cases:

Cystic Degeneration of Right Kidney.—A child (sex not stated) one year old was noticed by its parents to have an enlarged abdomen; which increased very rapidly. About four months afterward the child came under observation. It was very much emaciated. The tumor, regular in outline and surface occupied nearly the whole of the abdominal cavity. It was dull on percussion, dense and resisting to the touch and on palpation gave at points an indistinct sense of fluctuation. Intestinal resonance in a modified form could be made out only in the left hypochondriac and left inguinal regions. By aspiration a small quantity of bloody fluid was obtained, which upon microscopic examination did not furnish any clue to the diagnosis.

The autopsy revealed cystic degeneration of right kidney, weighing seven-and-three-quarter pounds. All the other abdominal organs were healthy.

Fecal Tumor.—A girl eight and a half years of age had suffered with repeated attacks of constipation. At first one week elapsed between the movements, since second dentition had been established it had become worse, three, five and six weeks intervening between the evacuations. Latterly, however, small frequent dejections occurred. The child was poorly nourished. A satisfactory examination was not obtained on account of her excessive nervousness. Her mother said a rectal examination would cause a fit and even an enema brought on convulsions. Friction was advised with tr. nucis vom. t. i. d. and Hunyadi each morning.

At the end of two months the mother returned with the child saying that she had been relieved up to three weeks ago, since then there had not been any movement. An examination of the abdomen, now, revealed a tumor occupying the left hypochondriac, lumbar and inguinal regions extending nearly to the umbilicus. It was soft, non-elastic, non-fluctuating, but easily moulded, yielding to pressure but not disappearing.

She was advised to enter the hospital for treatment, but not being willing to comply with the rules she left. The condition might have been due to: congenital malformation of large intestines: constriction of lower part of large intestine by a neoplasm: constriction by adhesions or bands of false membrane: paralysis of walls of large intestine due to habitual constipation and hysterical paresis.

The author thinks the condition in this case was due probably to prolonged constipation impairing the peristaltic action of the large intestine, the portion below the fecal accumulation becoming contracted from innutrition, thus increasing the resistance to the passage of the mass.

Probable Sarcoma of Right Kidney.—A healthy girl (age not given) seven months previous to observation, complained of pain and tenderness in the right side, about the same time her mother discovered a lump in the right lumbar region. The trouble was assigned to an injury received while swinging on a gate. When she entered the hospital she was thin, pale and distressed looking, and extremely weak. Examination showed the thoracic organs to be normal but displaced upward. The abdominal walls were thin and wasted, distended in the right lumbar region by a dense mass, nodulæ over the anterior surface near the umbilicus: firm, resisting, easily displaced, except downward. The circumference of the abdomen was eighteen inches. A month afterward the whole abdominal cavity was nearly filled, the circumference being twenty-four inches, although the child had emaciated very rapidly. Death from exhaustion. No autopsy.

Probable Hydronephrosis of Right Kidney, Congenital.—A female infant, five months old, was brought to the hospital for a great and increasing swelling of the abdomen. At birth the child had presented by the breech, the abdomen was misshapen, right torticollis and left valgus existed. The hard palate was also malformed.

Examination showed a tumor occupying the right half of the abdominal cavity, displacing the liver upward. It was uniformly rounded with a slight constriction at its lower and anterior portion. There existed indistinct fluctuation. Thirty-eight ounces of a clear, neutral fluid were removed by aspiration. An analysis of the fluid did not assist in the diagnosis. Nine weeks afterward twenty-six ounces were removed and eleven weeks later fourteen ounces. Entire relief ensued after each aspiration. The author thinks the cyst had its origin in the kidney and was dependent upon a malformation in the course of the ureter at its entrance into the bladder.

A Cyst of Unknown Origin Occupying the Greater Portion of the Abdominal Cavity.—A healthy boy, two years and a half old, had been observed for a year past to have an enlarged abdomen, which had continued to increase up to the present time. The urine was examined and found normal. All the organs of the body were normal: abdomen greatly distended, fluctuating, dull on percussion everywhere. The anterior surface of the abdomen was covered with a net-work of distended veins. Neither hands nor feet were swollen. Some puffiness of the eyelids. The abdomen was tapped and sixty-four ounces of dark brown fluid removed. There was then found under the free border of the liver, a round apparently solid mass projecting downward, displacing the liver and chest-walls upward. The hard mass under the border of the liver could still be felt.

The author supposes the fluid to have been limited by walls of less extent than the peritoneum.

An Abdominal Cyst.—A boy four years of age, was noticed two years previously to have an abdominal enlargement, which steadily increased until the present, the child not suffering except from the weight and distension.

Examination, the thoracic organs as well as the stomach and liver were displaced upward. The abdominal veins were not markedly enlarged. The abdomen was distended fully and uniformly; fluctuation very indistinct; intestinal resonance in right and left hypochondriac and epigastric regions. Deep pressure in these regions gave the boundaries of a round tense cyst. Eighty ounces of a dark brown fluid were drawn by aspiration. Analysis negative. An examination now made shows in hypogastric region the collapsing walls of a cyst. Six months afterward all traces of this were lost. Some time afterward the mother reported him to be "as well as anyone's boy." JOHN VAN VORST, JR., M. D.

Three Cases of Foreign Bodies in the Trachea or Larynx; Removals; Recovery.—H. R. Wharton, M. D., (*Med. News, Nov. 17th.*)

The first case, that of a boy aged seventeen months, a patient at the Children's Hospital, is interesting chiefly on account of the youthfulness of the subject. After the production of anæsthesia, the trachea was exposed and laid open when a forcible expiatory effort occurred and a small white bean was expelled from the wound. A small silver tracheotomy tube was inserted as a matter of precaution. The child did well after the operation. The tube was permanently removed on the fourth day and he was discharged, the wound having entirely healed, two days later.

The second case, a boy aged nineteen months, was admitted to the Children's Hospital on May 3d, 1883. Four days before he accidentally inhaled a portion of a grain of gourd-seed corn, and was at once seized with violent coughing and dyspœna. When admitted the symptoms were so urgent that immediate tracheotomy was deemed neccssary. During the operation, which was performed without anæsthesia, the respiatory movements ceased and artificial respiration had to be resorted to. This was kept up for some minutes and hope of resuscitation had almost vanished when suddenly a voluntary respiration occurred bringing the foreign body into the wonnd, whence it was removed. Afterwards respiration was performed freely so long as the tracheal wound was kept open by retractors, but so soon as these were removed and the edges fell together dyspnœa came on, consequently a small tracheotomy tube was inserted. The operation was followed by no unfavorable symptoms, the patient quickly recovered and was quite comfortable while wearing the tube, though the recurrence of dyspnœna rendered its removal, for any length of time impossible until July 23d, eighty-one days after its insertion. Since that date the patient had not been seen.

Besides early age there are two other features of interest in this case, namely, the respiratory arrest after opening the trachea, and the difficulty experienced in removing the tube. The arrest depended upon a falling together of the edges of the tracheal wound during the inspiratory act. Whether this was due to the natural flexibility of the trachea in early life, or to the prolonged presence of the foreign body having resulted in general inflammatory softening, the reporter does not attempt to decide, though he is inclined to regard the softening as an important factor since the first case, notwithstanding its youth, was uncomplicated by dyspnœa after the removal of the foreign body. The permanent removal of the tracheotomy tube is sometimes a matter of great difficulty, although it can usually be ultimately accomplished if enough patience be exercised. The difficulty arises both from the fact that the granulations produced in the healing may act like a valve-leaflet during the inspiration, and from the liability of the operation to be followed by irritability and disorderly action of the glottis muscles.

In both of these cases the operation was performed by Dr. John Ashhurst, Jr.

The third case was a girl, aged seven years, also a patient at the Children's Hospital. On the night before admission she supposad she had swallowed a pin which she was holding in her mouth, but was convinced to the contrary by a sudden attack of coughing and by pain referred to the upper part of the larynx. On examination the only symptoms were pain, a sensation of "sticking" in the region mentioned and coughs; by the finger the point of some sharp body could be felt beneath the skin a little to the right of the *pomum adami.* After ætherization Dr. Wharton made an incision a little to the right of the median line of the neck, where the point of a pin was seen imbedded in the right ala of the thyroid cartilage, it was seized with forceps, drawn down until its head impinged upon the inner surface of the cartilage, and its complete removal accomplished by a trifling incision. Very little air escaped through this incision, there were no unfavorable sequelæ and the patient made a rapid and complete recovery.

The reasons for selecting the external rather than the internal method of removal, was the extreme difficulty of controlling the child, and the fear that a delay might be followed by some unfavorable change in the position of the foreign body. LOUIS STARR, M. D.

Pleurisy and Empyema in Children.—Clinical Lecture by Prof. Wm. Pepper, *(Phila. Med. Times, Nov. 17th.)*

In giving the symptoms and physical signs of pleuritis, as exemplified in a patient twenty months old, Dr. Pepper called attention to the presence of bronchial breathing in the affected side, and to the making of the characteristic symptoms in the early stage of the attack.

The common statement is, that over large pleuritic effusions there is, in addition to the flatness or percussion, feebleness or absence of respiratory murmur. The vesicular murmur is, in truth, usually suppressed under such circumstances, but it is not uncommon to hear bronchial breathing. This has certain peculiarities in pleuritis, viz., it seems distant, and the respiratory element is most marked; it is, in fact, an exact counterpart of the laryngeal sound caused by obstructed breathing and disappears when the patient breathes with the mouth open so as to make no noise in the throat. The probability is that the sound is transmitted from a partially obstructed bronchial tube, from the larynx or trachea through the tense thoracic walls to the ear. Such bronchial breathing differs from that heard over a solidified lung in that the latter seems immediately under the ear, and wants the great accentuation of the expiratory element.

In regard to the second point, the symptoms of acute pleuritis in children are often masked by the symptoms of disorder of the stomach or bowels, or by nervous symptoms simulating the onset of a specific fever. The pain, when the child is old enough to complain of it, is often referred not to the chest, but to the stomach, the back, or even the thigh. This difficulty in diagnosis is only to be overcome by invariably examining children thoroughly—especially those who are too young to tell their symptoms—and attending particularly to the heart and lungs.

The treatment advocated for the early stage is the application of leeches and counter-irritants, and later when effusion has taken place of blisters. Quinine must also be given in large doses with the object of counteracting the tendency, so marked in children, to the conversion of the serous effusion into pus. When fever has subsided, iodide and acetate of potassium may be administered, with digitalis if there is cardiac irritability.

If the effusion does not quickly disappear under this plan of management, an explorating puncture with a hypodermic needle should be made to determine the character of the fluid. If pus be found it should be removed by aspiration. Sometimes, more frequently than in adults, there is no reaccumulation, but if there should be, a silver tube with a valve or a flexible drainage tube must be inserted. Disinfecting injections are not often called for in children.

When left to nature the most favorable termination of empyema is spontaneous perforation of, and evacuation through, the chest walls. This occurs much more frequently in children than in adults. The point of perforation is usually on the antero-lateral surface of the chest, in the fourth interspace. The next most favorable termination is perforation into a bronchial tube. In both cases ultimate recovery is the usual result.

On the other hand hectic fever may develop and the child die exhausted or be carried off by some intercurrent disease of the stomach or bowels; or some latent tuberculous tendency may be developed; or finally the pus may concrete into a semi-solid mass and a lingering illness, resembling a slow phthisis ensue.

LOUIS STARR, M. D.

Comp. Commin. Fracture Occipital Bone. Peculiar Nervous Phenomena.—Dr. R. B. Hall *(Cin. Lancet and Clinic, Dec. 1.)* A boy twelve years old standing near a railway track was struck by a projecting bolt of the bunting-beam of a locomotive, upon the ext. proturb. of the occipital bone breaking it, and driving the fragments into the brain tissue. He was picked up unconscious. When seen eight hours afterward, pulse was weak and rapid, respiration irregular and spasmodic, pupils dilated unresponsive to light. Surface cyanosed, had lost about four ounces of blood. The fragments, four pieces, were easily removed (under ether, patient moaning and moving when the attempt was made without it) although completely buried in the brain. Not more than a drachm of the brain substance was lost. The space occupied by the removed fragments was two by three-quarters of an inch. The wound was sutured with silk and dressed with carbolized-water dressing. Pulse and respiration soon improved, the cyanosis disappeared, but consciousness did not return until the third day. At this time he only opened his eyes when spoken to, but did not make any efforts to speak; swallowed fluids. There was considerable fever for eight days. The wound healed by granulation in six weeks.

The small amount of blood lost was due to the escape of the longit. and lat. sinuses from injury, which was remarkable as they were driven before the fragments in the brain. During the first eight days there was aphasia; after that for ten days he replied "yes" or "man" to every question. He apparently understood what was said to him. At the end of three months he recovered his speech completely.

If aphasia is due to injury of the third frontal convolution, how did it occur when the cerebellum was injured? (Might it not have been from coutre-coup or from direct forward pressure of the brain mass?—Rep.)

Voluntary movements and general sensibility soon returned, but there was loss of coördination.

At the seventh week he could walk with assistance, at the tenth he could walk alone. At the present time, one year and seven months after the injury, he can walk without inconvenience after he has taken the first eight or ten steps which are more or less unsteady.

His general health is good. JOHN VAN VORST, JR., M. D.

A Contribution to the Study of Rotheln, or German Measles.—Boardman Reed, M. D., *(Phila. Med. Times, Nov. 17th.)* In a number of cases of Rötheln which recently occurred at Atlantic City, N. J., Dr. Reed noted the following facts: The almost uniform occurrence of more or less enlargement of the chains of cervical lymph glands. The apyrexial character of the disease, the temperature, in the rare instances of an elevation, never reaching a higher marking than 100° or 101° and always falling to the normal line on the second day. The infrequency of constitutional symptoms in the way of anorexia and malaise, some of the children having been allowed to play about the streets covered with a formidable looking eruption, without a suspicion of their suffering from anything but a tooth rash. Finally the absence of catarrh from the eyes, nose or bronchial tubes, though slight suffusion of the eyes was not uncommon.

In some of the patients there was desquamation and in one instance slight albuminaria and dropsy followed the attack.

Three of the cases occurring in one family and supposed to have had the disease in a modified form, showed a very partial and otherwise peculiar eruption. One, a boy of five years, presented a decided dermatitis involving both cheeks and in a less degree the sides and front of the neck; the skin was fiery-red, very finely punctated, and hot to the touch, and the lower eye-lids were œdematous; the temperature of the rest of the body and the pulse were normal. Another, a girl of three years, had a diffuse punctated rose-colored rash covering the whole thorax and extending slightly to the abdomen, the rest of the surface being entirely free, at the same time there were two patches of genuine dermatitis, three inches in circumference, upon the breast. The eruption did not disappear in either of these cases until the fourth or fifth day, a somewhat longer duration than usual.

The third child had slight erythema of the fauces and a fine punctated rash on the tonsils and velum palati, but no rash on the skin. The cervical lymphatic glands were enlarged; the temperature and pulse were normal and the appetite good. LOUIS STARR, M. D.

Galvanization of the Brain, and its Value in the Treatment of Chorea.—Charles L. Dana, M. D. *(Med. News, Nov. 17th.)* After a detailed account of the effects of passing a galvanic current through the healthy human brain and of the manner in which these effects are brought about, the author gives the notes of eight cases of chorea occurring in patients ranging in age from eight to fifteen years, and treated more or less systematically by cerebral galvanization.

The average duration of the treatment was twenty-five days, of the symptoms thirty-four days, against six and eight weeks in thirty other cases, treated chiefly by arsenic. Dr. Dana, however, does not base his belief in the efficacy of electricity so much upon the statistics of duration, as upon the fact—which occurred too frequently for mere coincidence—that evident improvement in the symptoms followed each *seance* and continued for twenty-four or thirty-six hours.

What is claimed for "anodal galvanization" is that it is a most valuable adjunct in the treatment of chorea; that if employed daily for a week or ten days, either with or without the simultaneous administration of arsenic, it materially shortens the duration of the majority of attacks occurring in children.

It is to be applied in the following way: A large sponge-electrode of flexible brass, two by four inches, is thoroughly moistened with salt water. The hair of the patient is also thoroughly wetted, and the electrode applied over the side of the head, above the ear. In hemichorea it need only be applied over the side opposite to to the one affected. The other electrode is placed in the hand of the affected side. The electrode upon the scalp is made positive, and a stabile current of the three to six Stöhrer's, four to eight Daniell's cells, is passed from three to six minutes. LOUIS STARR, M. D.

Intussusception; Laparotomy; Death.—Prof. L. McLane Tiffany (*Md. Med. Jour., Dec. 1*,) reports case of a healthy child (sex not given) aged eight months, who was suddenly seized with acute abdominal pain, soon accompanied by frequent bloody mucous discharges. It was seen within an hour by Dr. Morawertz who diagnosed intussusception. Opium was given to narcotism, large injections and kneading the belly. The next day rectal touch revealed a tumor. A large injection was given and great improvement followed for a time, but later the symptoms were as unfavorable as before. The day following this Dr. T. saw the child. Facies natural, no fever or peritonitis, rectal touch still revealed a tumor, three inches from anus, dimpled so that the finger entered. Bloody mucous evacuation without fecal matter took place hourly. All ingesta vomited. Laparotomy was urged, but declined. The child was, however, anæsthetized, inverted and a small funnel passed into the rectum in order to try the effect of fluid pressure, but without result. At midnight of the fourth day Dr. T. was called upon to operate. Child in collapse. The intussusception was easily unfolded, the origin being at the ileo-cœcal valve. About the valve the intestine was stiffened with infiltrated blood, but the peritoneum was smooth and shiny, no fluid in peritoneal cavity: absence of peritonitis. Wound closed. Vomiting and evacuation ceased. Child partially reacted, but in two hours the collapse returned fully, proving fatal eight hours after operation. Dr. T. believes that early operative measures should be resorted to in similar cases.

JOHN VAN VORST, JR., M. D.

Chyluria.—Dr. Harbison *(Australian Med. Jour. Sept.)* reports a case occurring in the service of Dr. Fulton in the Melbourne Hospital. The patient a boy of nine, had been ill two days when admitted. Had complained of pain at the end of the penis increased by efforts at micturition; vomiting, drowsiness and slight diarrhœa were present. On admission he had a temperature of 103.6°, skin hot and dry, tongue moist and coated, foul breath, pain on swallowing and marked headache. Pain and tenderness in right iliac fossa, no eruption; heart and lungs normal; urine had a distinct milky color with a cream-like matter three-fourths of an inch thick on the top. It had a fetid odor, was acid, sp. gr. 1020; one-third albumen; microscopically abundance of fat globules, no filaria, no blood.

The fever lasted two days and was then absent for a week. Drowsiness and headache were marked symptoms. The bowels were usually open and the stools clayey. The fat had almost disappeared from the urine, but it was slightly albuminous and contained many white blood cells but no casts. Through the second week an irregular febrile movement was present once reaching to 103.6°. It gradually subsided. The fat was not again found in the urine in any amount. On an examination epithelial and blood casts were present in small numbers.

The skin was very dry, hard and inclined to scale. He was discharged cured at the end of a month.

L. EMMETT HOLT, M. D.

Cephalematoma of the New-born.—Dr. C. W. Earle (*Jour. Am. Med. Asso. Nov. 17*) has met with six cases in twelve years which he thinks is a greater frequency than has been supposed. The usual site has been upon the right parietal bone, but five of his cases were upon the left.

Bilateral tumors have been recorded. The causes are said to be due to the pressure against a rigid os, but as the condition has been noticed in breech-cases there must be other causes, as injury by forceps, a tendency of the vessels to rupture or undue thinness of their walls.

A cephalematoma differs from a caput succedaneum in that the former is a collection of blood between the bone and peroisteum, never in the line of a suture, a fluctuating fluid surrounded in a few days by a hard ridge, which is almost pathognomonic: the latter situated upon the part presenting, is an œdematous condition of the tissues, it may embrace a suture, does not fluctuate, has a baggy feel, disappears rapidly.

A caput succedaneum may hide a cephalematoma until the former subsides.

A cephalematoma may be diagnosed from a hernia cerebri, by the pulsation of the latter, increase of size by crying: from, a vascular tumor by absence of fluctuation and hard surrounding ridge. It may be mistaken for craniotabies. Treatment: protection from injury, mild anodyne lotions. If it produces pain or irritation, open antiseptically.

JOHN VAN VORST, JR., M. D.

Mechanics of the Hip-joint in Regard to Treatment of Morbus Coxarius.—Prof. J. S. Wight. (*Archiv. of Med. Oct.*)

"Two sets of muscles that are antagonistic, are more nearly in equilibrium when the bone that they move cuts the arc of their motion nearer its end on the side of the more powerful set of muscles." In accordance with the above proposition the writer studies to put his patient in such a position as to establish, by flexion, abduction and out-rotation, an equlibrium between the opposing muscles of the hip-joint. To do this the patient is put upon a bed with his shoulders elevated, to give flexion to thigh. Weight is attached which tilts the pelvis downwards and causes abduction. Then it is observed the limb has rotated outwards.

In recent morbus coxarius the limb is somewhat flexed' out-rotated and the pelvis is tilted downward—abducted, so that the facts agree with the theory and the explanation of the facts is consonant with the reasons for the theory.

A weight of six or eight pounds is used in extension, not to separate the joint surfaces, but to tire out the irritated muscles, and relieve unnecessary pressure on the joint. For counter extension the foot of the bed is elevated. After a short time, when the irritable muscles are in a condition "to behave themselves," the patient is fitted with a splint and goes about. WM. P. NORTHRUP, M. D.

An Enlarged Caseous Lymphatic Gland. Death from Pressure.—Dr. B. P. Goode *(Cin. Lancet and Clinic, Dec. 1.)* A babe five months old was brought to him on account of an enlargement of the right side of the neck. The mother said she had fallen two months ago, with the child in her arms. Two weeks later the tumor was noticed. Two days before it was seen the right arm had become paralyzed. The upper border of the growth was on a level with the thyroid cartilage, the lower extended from the sternal end of the clavicle, dipping beneath it and making it prominent, outwards two-thirds of distance toward the acromial portion. It was hard and without fluctuation. The head was turned to the left and could not be brought to the median line without pain. The child nursed well. No fever. Three days later the tumor had increased in size, a distinct bruit was heard over it. Refused to nurse, weaker. Respirations, sighing, dullness at base of right lung. Next day had a convulsion, cyanosis, death. Autopsy: Right lung congested, left normal. Heart normal. The tumor rested upon and embraced the brachial plexus; the subclavian artery was found on its lower border; the carotid artery, int. jug. vein and pneumogastric were compressed. Microscopic examination showed a glandular structure infiltrated with caseous material. JOHN VAN VORST, JR., M. D.

The Round Ligament in the Pathology of Hip Disease.—J. Ferguson, B. A., M. B., publishes *(Canadian Practitioner, Nov.,)* a new theory regarding the production of hip-joint disease. He conceives the weight of the body suspended on the femurs by the round ligaments. Relaxation of the ligament from congenital or acquired causes, produces undue pressure upon the upper part of the acetabulum by the head of the femur. As a consequence of this friction, inflammation develops. The round ligament is much less firmly attached to the acetabulum in children than in adults. By experiments it was found to separate with one-third the force proportionate to the weight that was required in adults. The running and jumping propensities of young children are a fruitful source of stretching and partial detachment.

A case eleven years of age is reported, in which slight hip symptoms had been present during life. Death resulted from intercurrent disease, and autopsy showed elongation of the ligament and slight separation from the femoral attachment.

He denies any analogy between the pathology of hip-joint disease and that of the knee or other joints.

L. EMMETT HOLT, M. D.

A Survey of the Literature of the Diseases of Childhood.— Dr. John R. Quinan *(Md. Med. Jour. Dec. 1,)* criticizes severely, but justly, certain portions of an address on this subject, read before the Brit. Med. Asso., 1883, by Dr. S. Gee, F.R.C.P. Some of the obnoxious parts are that the writings of Celsus, Aretæus, Aurelian and Paulus Ægineta upon diseases of children are not worth noticing. That the seven hundred years between Rhazes and Glisson "added hardly anything to our knowledge."

Dr. Gee claims Glisson as the discoverer of rickets, while the author shows that Dr. Daniel Whistler's was the earliest published account (1645). Dr. Quinan objects to the assertion that the works upon diseases of children written in the eighteenth century were "bad enough" and some of them the merest "twaddle."

Dr. Gee believes "the first bronchotomy in croup was done by John Andrie, February 11th, 1782, at Hereford." Dr. Quinan shows that it was first performed in Great Britain by George Martine, in 1730, at St. Andrews. Martine first used a lead tube, then substituted a silver canula.

JOHN VAN VORST, JR., M. D.

A Case of Concussion of the Brain in an Infant. — P. Hooper, M. D., *(Phila. Med. Times, Nov. 17th.)* The patient a girl, aged twenty months, was accidentally struck on the head with a stone. The injury was succeeded by violent screaming, convulsions, unconsciousness, a weak, slow pulse and abnormal coolness of the skin. After several hours, reaction set in. The pulse then became very frequent, ranging from 160 to 170, and was weak and thready; the temperature rose to 103°; the pupils were dilated, the eye-lids firmly closed; there was complete unconsciousness, and on one day several convulsions confined to the side opposite the injury. On the fifteenth day she showed the first evidence of returning consciousness but was not completely herself for several days. Subsequently convalescence was slow though she ultimately entirely recovered. The treatment consisted of hot applications to encourage reaction; then ice to the head with small doses of calomel and opium; later bromide of potassium and chloral, and finally tonics.

LOUIS STARR, M. D.

Bi-chloride of Mercury in Diphtheria.—Dr. Madison Reece *(Jour. Am. Med. Asso. Nov. 1,)* has found a solution of the mercuric bi-chloride in the proportion of one grain of the salt to four ounces of rain water, very efficacious in diphtheria. If the patient is old enough to gargle and rinse the mouth, it is to be done every two hours, swallowing a teaspoonful afterward. If the disease be very severe, it must be done every hour. Within fifteen or twenty-four hours the exudation will disappear, but will return unless the remedy is continued. It is to be kept up for a week or longer, the strength of the gargle and frequency of use being regulated by the effects produced, viz., nausea, vomiting or purging. As long as the system is suffering from the poison these symptoms will be absent. The rationale of the effect appears to be due to the remedy being rich in chlorine, also to the effect of the bicholoride upon bacteria as demonstrated by Sternberg.

JOHN VAN VORST, JR., M. D.

Foreign Body in Vermiform Appendix; Perforation, Peritonitis, Death.—Dr. Frazer (*Glasgow Med. Jour. Nov.*) relates a case in a boy of nine who died on the ninth day of his illness. The early symptoms were constipation, persistent vomiting and slight pain, not localized; some febrile disturbance. After four days all these subsided. Two days later symptoms returned which pointed unmistakably to perityphlitis; pain and tenderness over the cœcum with a slight tumefaction, constipation and moderate fever. These symptoms soon merged in those of general peritonitis from which he died in three days. The autopsy showed general peritonitis with abundant exudation of fibrin and pus, especially marked about cœcum and ascending colon. An ulceration was found at the tip of the appendix. A small nodule of inspissated fecal matter was found in the abdominal cavity close by. This was supposed to have been the offending substance. L. EMMETT HOLT, M. D.

General Tuberculosis. Death from Hemorrhage from the Wall of a Cavity.—C. W. Stewart, M. D. *(Glasgow Med. Jour., Nov.)* The patient was a boy of ten years and was admitted to the Royal Infirmary eight days before death. He presented the general symptoms of tuberculosis; the physical signs indicated consolidation of the upper portion of the left lung with very probably a small cavity.

He died suddenly from hemorrhage coming on in a severe fit of coughing.

The autopsy showed a cavity toward the root of the left lung large enough to admit the finger. It was partially filled with a blood clot. A large branch of the pulmonary artery and a good sized bronchial tube were found to open into it. Tubercles were found in the other lung, the liver, the peritoneum and the spleen. The brain was not examined. L. EMMETT HOLT, M. D.

Hypertrophy of Prostate in Child Thirteen Months Old.—Dr. Mudd *(St. Louis Med. and Surg. Journal, Nov.)* presented to the St. Louis Medical Society, a specimen of hypertrophy of the middle lobe of the prostate gland removed from a child thirteen months old. The child had been healthy until within a few weeks of its death. Retention of urine was the first symptom noticed, and the mother called the doctor's attention to the fact that the child never turned or rested on its stomach. An examination per rectum determined a large tumor presenting anteriorly and connected with the bladder. The microscopic examination by Dr. Luedeking showed the tumor to be an hyperplastic myoma of the prostate gland, and in his opinion it had been developed as an intra-uterine growth. The tumor was about the size of a small lemon. WM. P. WATSON, M. D.

Diphtheritic Paralysis.—James Jamison, M. D. *(Australian Med. Jour., Sept.)* reports a case in a young man of twenty. The primary disease was of short duration and very mild type. Two or three weeks after recovery he began to complain of weakness in the lower extremities. Marked paresis developed, with numbness in the feet and absence of patellar reflexes. The paralysis grew worse and extended to the arms, but no symptoms referable to the eyes or throat were ever manifested.

Iron, strychnine and massage were used, and when reported the case had advanced far towards recovery. The author is of the opinion that such cases go far to establish the fact of a lesion in the cord in diphtheritic paralysis. He believes that the disease is very little influenced by active treatment. L. EMMETT HOLT, M. D.

A Contribution to the Study of Icterus Neonatorum.—Dr. Frederick P. Henry *(Archiv. of Med., Oct.)* has examined, on successive days, the blood of four new-born infants. All showed rapid and great diminution in the number of blood corpuscles. In one there was deep jaundice; in a second none; in two, slight discoloration. He argues it is not hematogenic.

He concludes the icterus is due to sudden diminution of the portal-blood pressure from ligature of the umbilical cord, and therefore of mechanical or hepatogenic form.

The degree of disturbance is due to two elements—(1) Anastomoses of the umbilical veins with the veins of the abdominal wall. (2) Vigor of the cardiac contractions.

WM. P. NORTHRUP, M. D.

Myeloid--Sarcoma of Inferior Maxilla.—Dr. Eichberg, *(Cin. Lancet and Clinic, Dec. 1,)* saw a child who had a tumor at the site of one of the bicuspid teeth of the lower jaw, which infringed upon the neighboring canine. Its mother said the tumor had appeared immediately after the removal of the milk-tooth. The tumor was not ulcerated, but bled by being wounded by the teeth of the upper jaw. Glands not enlarged, but some difficulty in deglutition. It was supposed to be an osteo-sarcoma. It was removed successfully by the knife and thermo-cautery. Examination showed it to be a myeloid-sarcoma.

JOHN VAN VORST, JR., M. D.

Nevus Treated by the Local Application of Arsenic.—Dr W. J. Beatty reports *(British Med. Jour., Nov., 24th,)* that he has used this with success in eight cases. He paints the growth with the officinal solution twice a day until ulceration occurs. The cure is usually effected in from three to five weeks. L. EMMETT HOLT, M. D.

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Original Communications.

CONGENITAL LIPOMA.

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According to E. Lancereaux (Traité d' anatomi path. I., p. 341) lipoma is developed at every age; it has been observed in old people and in young infants. Even congenital lipoma has been known to occur. It has been met with as a hereditary disease; thus Murchison has the cases of a father and two daughters with fatty tumors on almost corresponding parts.

This is all he has to say on the subject, nor have the other text books on pathological anatomy more information to convey. The following pages will give a resumé of the facts recorded, with a few cases of my own, and such additional remarks as appear indicated by the interest the subject seems to command.

General obesity, that is hypertrophy of the adipose tissue under the whole of the surface and in the interior of the body will be rigidly excluded from my consideration. Thus the cases of infants and children weighing from fifty to a hundred pounds or more in very early years form no part of this paper, which has to deal with local changes rather than with the results of universal malnutrition resulting in universal adiposity. Perhaps one of the most interesting cases of the kind is that of a fetus of six months reported by Deutschberg (de tumoribus nonnullis congenitis. Diss. Vratislav, 1822.)

Local hypertrophy of the adipose tissue will occur sometimes to such an extent as to increase the size of a limb enormously. The cases of Busch and Rose will be noted below. The *hand* of a boy of sixteen years, described by Henderson in his Notes on Surgical Practice in Shanghai (Edinb. Jour., Aug., 1877), weighed eight pounds. The extremities are often increased both in length and circumference. In these cases the development of the bones is liable to correspond with that of the adipose tissue; thus in Little's case of the *right lower extremity* of a child of three years (Trans. Path. Soc. London, 1867, XVII., p. 434). In the eases of Juengken (or Ideler, Diss. inaug., Berlin, 1855), Friedberg and Wagner (Schmidt's Jahrb., III., Suppl. 1842, p. 66), and Fischer (D. Zeitsch f. Chir., XII., p. 16, 1879), lipomata complicated the general hypertrophy of a whole extremity. Of a similar nature is the case of a girl of six years reported by Burow (D. Klin., 1864), with universal hypertrophy of the *second and third toes* and corresponding metatarsal bones, and that of a man of thirty-two years, reported by Wulff (Petersb. Med. Z., 1861, p. 281). The *volar part* of the hand, as far as it corresponded with the three first fingers, was hypertrophied from birth. Independent increase had commenced but recently.

With this exuberant growth other anomalies are apt to be combined; thus Fischer observed a supernumerary nail though without a phalanx of its own. The swelling is mostly of irregular shape, is not infrequently found at a great distance from the heart. In many cases impeded circulation may bring on or aggravate the morbid process. The position of the limbs in the uterus may influence both arterial and venous supply. The superabundance of the latter is apt to increase the formation of œdematous fat, as for instance it does to an excessive degree in acardiac (acephalous) monsters the whole circulation of which is venous. On the other hand in a more advanced stage of fetal develpment, or in the infant the preponderance of venous circulation have the effect of diminishing the size; for parts of the body, particularly extremities, inflicted with extensive venous angioma lose in circumference, strength and power.

Congenital hypertrophy, with the development of a great deal of fat, is mainly found in the fingers, the volar side of which is liable to carry a large quantity. The presence or absence of fat in them or elsewhere, depends on the time in which the congenital hypertrophy started. In the first half of intrauterine life no fat is formed; thus local hypertrophies dating from that time are complicated with gelatinous or myxomatous enlargement of the inner layers of the skin; such, however, as originated in the second half of fetal life will be found complicated with an abnormal concomitant development of fat.

The extremities will not be the only parts to exhibit such anomalies. The skin of the occiput and back, the abdomen, the upper extremities, besides the calves of the legs and the dorsal and plantar surfaces of the foot are the seats of such deposits. What Virchow called soft elephantiasis consists of the latter anomaly, joined to a copious deposit of adipose tissue. On the head lipomata are found but very rarely. Both Rokitansky and Virchow agree on this point, and also in the cases of that fact. They look for the occurrence of lipoma in soft adipose tissue, and do not expect to find it in the dense connective and elastic tissue of the scalp. Therefore the case of lipoma fibrosam in that locality described by Dr. Carl Fieber (D. Zeitsch f. Chir. XII. p. 112, 1879,) is a rare exception from the rule. The infant of the woman from whom Briolle, whose case will be referred to later, extirpated an immense lipoma, is reported to have had a tumor on the head; but its nature, as the child had died long ago, was not ascertained: as a rule it must be taken for granted that lipoma will form under such circumstances, and in such localities where fat is normally deposited in disproportionally large masses. It has to be taken as the (pathological) excess of normal (physiological) growth. Thus in the adult, lipoma will mostly be found on the chest, shoulders, abdomen, and congenitally it will appear where physiological growth of fat is rapid. After having been developed, its increase is generally slow; as a rule slower in the adult with an acquired, than in the infant with a congenital tumor. Nor is this the only difference between the nature of lipoma occurring in these different ages. From the cases I am about to enumerate it will appear that contrary to what we know of the capsulated form of adult lipoma, the congenital variety is apt to be diffuse, and not capsulated.

My own cases are as follows:

I. Mary C——, aged three years; admitted May 28, 1879, to Mount Sinai Hospital.

Family history good. A swelling on both sides of the vertebral column in the *lumbar region* was noticed immediately after birth. It increased in size slowly up to six months ago, when it began to grow rapidly. It was not painful; she was playful; and her appetite and general appearance were good, although she was delicate. She had two brothers and two sisters in good health.

When admitted, there was a swelling in the lumbar region, extending five inches or more to the right and to the left of the lumbar vertebral column. It was soft, elastic and lobulated, and from three to four inches in its vertical diameter. It was not painful on pressure, and the skin over it was not changed with the exception that a few blood-vessels were enlarged. There was a smaller swelling on the (left) gluteal region and another on a level with the scapula; the latter being the smaller of the two and having a diameter of two or three inches. Both of the smaller swellings felt softer than the one situated in the lumbar region; still they were lobulated, and to a certain extent, elastic. There was no doubt that all these tumors were lipomata. On the *third* of June a semicircular incision about ten inches in length, was made over the main tumor, with its concavity downwards. No capsule was found. Large masses of fat between the skin and the vertebral column were removed; still it was not possible to dissect deep enough to remove all the fat present; the operation was done under Lister, and a Lister dressing was applied. The condition of the patient after the operation was fair. There was a great deal of oozing from the wound in the night, and the dressing was removed and a new one applied.

On the *fourth* of June there was but little discharge, no pain; but the pulse was 150, respiration 30, and temperature 101¼° F.

June 6th. The temperature and respiration remained unchanged but the pulse had fallen to 116. The patient was quiet, had slept, and there was almost no discharge.

June 8th. Pulse, respiration and temperature quite normal; there was an itching papular eruption over the whole of the body and the extremities.

June 9th. The general condition of the patient was the same as on the eighth, with the exception that during the night she had four dysenteric stools, and for those opium and bismuth were administered.

June 10th. Eight passages consisting mostly of mucus. At the same time the wound looked badly and began to slough.

June 12th. Her stools were slightly dysenteric in character, and the wound looked no better.

June 13th. The patient was pale and emaciated. Temperature 98¾° F. At five P. M. her pulse was 132, respiration 36, and temperature 102½° F.

June 14th. Two dysenteric passages. A large amount of suppuration from the wound and of an offensive odor.

The wound has sloughed and began to ooze; a hair-lip pin was introduced to hold its edges together.

June 15th. Temperature but slightly elevated and pulse better, and the wound also presented a more favorable appearance. Only one passage from the bowels during the last twenty-four hours. During all this time the wound had been dressed daily under Lister.

June 17th. Considerable sloughing at the edges of the wound. A thorough application of a twenty per cent. solution of carbolic acid was made, and was repeated a number of times. The child was fed well, took quinine regularly, and was stimulated freely with alcohol and camphor, but she grew paler, emaciated considerably, and the wound continued to slough. There was a great deal of discharge, which always had an offensive odor.

Several times, hair-lip needles were applied for the purpose of reducing the gaping of the wound. Though the dysentery was relieved at about this time, there was slight erysipelatous inflammation of the edges of the wound.

There was never any fever, but emaciation continued, anemia increased, and the patient died on the 2d of July.

II. A boy of three years was sent by Dr. I. Oberndorfer from the West Side German Dispensary. He had in and below his *left groin* a swelling of irregular shape, apparently originating in the femoral ring. It measured from three to four inches in the axis of the femur, and from two to two and a half inches transversely. Its outlines were not at all smooth, even and regular, but irregular and nodulated, as was also its surface. The blood vessels of the surface, which was quite normal, were but slightly enlarged; pressure gave no pain, and resulted in no reduction of size. The tumor had been observed through more than two years, and had grown larger, but never changed its location. Removal was proposed, but at that time refused.

III. A lipoma, probably congenital, I observed on the *back* of a man of fifty-five.

This patient of mine, then thirty-five or forty years of age, mentioned in the course of conversation some twenty years ago the presence of a tumor on his back. I found it located over the ninth and tenth dorsal vertabrae, of the size of a walnut, not changed in color, not painful, indolent on pressure, not reducible in size. The blood-vessels in the neigborhood were but slightly enlarged. It appeared nodulated, soft, but offered a certain resistance. He was certain that it had been in the same condition as long as he could remember, and had been told that he had never been without it. I advised an operation only in case the tumor would ever commence to grow. It never did, however, and twenty years afterward, when he died, it was in exactly the same condition and of the same size.

IV. A female child, a patient of Dr. Moêller, was born on January 26th, 1882, and died April 4th, 1883. She was the fifth child of the mother, and weighed 13½ pounds when born. She cried and drank normally, lips rather cyanotic, but not the nails, and the general surface a trifle livid. A cephalhaematoma on the right parietal, and one on right occipital, bones.

Left foot large, first and second toes normal, third and fourth webbed (bones separate) and of three times their normal size; they turn to the right, so that there is quite an interstice between the fourth and fifth, the latter of which seems as if it were joined laterally to the metatarsal bone. It is larger than the big toe. The left foot has a circumference of 13, a length of 9 centimeters, the right 9, and 7. The circumference of the left calf is smaller, however, than that of the right, which is flabby and soft. Otherwise the right lower extremity is normal up to the knee; the knee joint has but a limited voluntary motion, the normal backward motion of the leg (flexion) is impeded, but anteriorly the knee bends so as to allow the toes to touch the abdomen. No patella discovered. On the right thigh a large, soft, lobulated tumor, not compressible, nearly surrounds the limb, with the exception of the posterior aspect. The circumference of the right thigh is 24, that of the left 16 centimeters. The left lumbo-dorsal region is swelled, soft, adipose, not compressible; the swelling is marked in the left renal region, somewhat nodular, and extends to the right of the median dorsal line. The whole right side of the body, from the abdomen and renal region upwards to the axillary region, is occupied by a diffuse, not quite soft, somewhat nodular, very extensive mass, the elevation of which over its neighborhood is estimated at from one to four centimeters. The surface has the normal color, with the exception of some large spots which are the seats of subcutaneous hemorrhages of a nature similar to what is noticed on the patient's palate. The boundary lines of the diffuse swelling are sometimes straight, sometimes curved. There are no dilated veins on the surface, but from about the tenth rib upwards there is an almost square space (centim. 14 x 14) which is more or less uniformly brown, succulent, and changing under the pressure of the finger, of teleangiectatic nature. Its posterior boundary line is straight, the anterior curved.

The case, then, was one of gigantic growth of the left foot, localized lipoma of the *right thigh*, diffuse lipoma of most of the surface of *abdomen and chest*, and teleangiectasia of the right side of thorax, mostly anteriorly.

In the course of time other symptoms showed themselves. On September 2d the head was found to be oblique, flattened to the right and posteriorly, left half of head and face longer than right, left ear is an inch back of the line of the right, left eye larger than right, convergent strabismus and convulsions of the face now and then, intellectual functions rather dull, occasional convulsions, now and then universal, sometimes about the face only.

In the last few months of life large subcutaneous abscesses developed and discharged considerably. The autopsy corroborated the diagnosis and revealed besides hydrocephalus and perinephritic abscess on the left side.

V.—My most interesting case is, perhaps, the following:

A case of lipoma of the *lumbar region, complicated with spina bifida,* came under my observation many years ago. It has been described by Dr. B. F. Dawson in the Amer. Jour. Obst. (Febr., 1871), and is the same case referred to by me in the same journal (XII., 1879, p. 755), and again by Dr. Dawson in the N. Y. Med. Journal (1883, p. 613). According to Dr. Dawson's description, "a tumor the size of a large orange was seen over the lower lumbar region. Its appearance was somewhat flattened and very slightly pediculated, and its color was uniform with the surrounding skin, with the exception of an irregular spot in the center about an inch in diameter, of a mottled color, which was evidently due to friction of the clothing, etc. The exact location of the base of the tumor was found to be over the two last lumbar and the first sacral vertebræ, but not in the median line, two-thirds at least of the tumor being to the right of it. To the feel the tumor was uniformly tense and unyielding, though not hard, and by grasping it with the fingers considerable mobility was obtainable. Continued and very firm pressure failed to diminish its calibre, and produced no marked impression on the appearance or behavior of the child."

Under the supposition that the case was one of uncomplicated lipoma, its removal was undertaken. It was found to be diffuse, one and three-quarter inches in thickness, not capsulated, and covering a small sac of spina bifida, "containing not more than half an ounce of fluid, of the size of a small thimble, just admitting the little finger to the depth of three-fourths of an inch."

The literature of our subject is not very extensive.

Leclerc de Buffon, (hist. nat. gén. et part. etc. rédigée par C. S. Sonnini, Vol. XX.,) has the case of a girl of three years, who had on *abdomen, face and extremities* a large number of tumors, yellowish, covered with hair, raised above the level of the skin. All over the back down to the lumbar region, the tumors were larger and numerous. Probably this is the same case seen, when a few years older, by Lavater and Wünsch.

Thomas Bartholinus reports the case of a girl whose *whole body* was covered with villous yellowish brown spots and large cutaneous excrescences. He expresses the conviction that her mother lived in concubinage with a monkey.

Walther saw, in the General Hospital of Vienna, in 1800, a woman covered *all over* with lipomata. They were small, bottle-shaped, and mostly pediculated. They were congenital.

Arlt (Lehrb. III., p. 376,) describes a congenital lipoma of the *left upper eyelid* complicated with congenital coloboma. It consisted of two parts, was soft, elastic and encysted. The two were located in the episcleral tissue.

Congenital lipoma of the *tongue* has been observed by Bastien (Bull. de la socíété anat. de Paris, Nov. 1854.) The patient was a man of 21 years, who had a tumor on the right side of his *tongue* since early infancy. It had finally reached the size of a pigeon's egg, then remained stationary and contained beside fat, cartilage and bone.

Also by Lambl (Beob. u. Studien aus dem Franz Joseph Kind. Spit, p. 181.) The tumor extended all along the *tongue* so that its origin could not be appreciated, On its surface it was dermoid, with hair and tallow follicles, and consisted of fat, cellular tissue, and blood-vessels.

J. Arnold (Virch. Arch. 1870. vol. 50, p. 482.) reports a case of congenital compound lipoma of the *tongue and pharynx* perforating into the *cranial cavity.* It had a dermoid surface and contained particles of cartilage and masses of capillaries, detached during its developement muscular fibres and layers of the tongue, closed the excretory duct of the sublingual gland, thereby caused the occurrence of cavities, fistulae and pouches, and atrophied the glandular structure. Such at least is what the author claims; though the suspicion that the case is one of epignathus, cannot be entirely suppressed.

F. J. Voigtel describes (Meckel's Hand-book of Path. Anat. Vol. I., p. 86,) a congenital lipoma of the *dorsal and lumbar region.* The mass grew to the twentieth year and had at that time a circumference of thirty-six inches, and a weight of from three to four pounds. It consisted of several parts, all of which were capsulated.

Ph. von Walther's celebrated case of "naevus lipomatodes "is contained in his monograph (über d. angeb. Fetthautgeschwülste u. and Bildungsfehler, Landshut, 1814.) The skin from the *third dorsal vertebra all over the back,* down to the *nates, over thighs, abdomen* and upwards to the mammæ was of a brownish color, as frequently in naevi and covered with hair. On this surface there were twenty-four lipomata, large and small; The largest was located on *sacrum right hip and thigh.* It was 19 inches in circumference, 18 inches long, 16 inches in its greatest breadth, and had a weight of from 16 to 18 pounds. Such it was when the girl was nineteen years old. When she was seven, it was not larger than a fist. Several operations were performed to reduce the size of the patient to more comfortable limits. When they had proved successful the girl, then but fifty-one inches high, but otherwise well built, grew and developed more normally.

C. Vogt (Einige seltene Congenitale Lipome, Diss. Berlin, 1876,) publishes a few cases of congenital lipoma observed in the surgical clinic of the university of Berlin. One case was that of a girl a year old, who, according to the report of the mother, had been perfectly well up to half a year before. At that time, without any perceptible cause, there became visible in the *right mammary region* a movable tumor. The mother was certain that she had not noticed it at birth. For half a year the tumor had grown rapidly, and the patient was admitted on the 7th of July, 1876. The tumor covered almost all of the right anterior and a portion of the left side of the thorax. It commenced an inch and a half below the right clavicle, extended downward to the base of the ensiform process, and reached beyond the left margin of the sternum for about an inch and a half. It was three centimeters high, twelve centimeters wide, and nine long, and a circumference of about fifteen and a half centimeters. The surface exhibited a large number of dilated veins, and could be raised from the tumor with facility. The tumor was without pain, of soft consistence, and lobulated. Percussion and auscultation showed that the heart and left lung were pressed sideways and back. Thus the diagnosis of a tumor was made, located in the mediastinal cavity. It could not be stated, however, whether the two tumors, one outside and the other inside, were connected with each other. The external tumor growing very fast, extirpation was proceeded with on the 12th of July.

It was found that the external tumor could not be removed entire, but that there was a process at its posterior surface which entered the third intercostal space about one centimeter from the right edge of the sternum. This process evidently was a pedicle protuding from the *mediastinal cavity* Thus the substernal part of the tumor could not be extirpated, and the external portion only was removed. The child died eight days afterward of dyspnea and erysipelas. The mediastinal tumor was found to be spherical, of the size of the fist, and surrounded by a very firm membrane, consisting of cellular tissue. Upwards and to the right there were two prominences of the size of a cherry. The tumor filled the whole of the anterior mediastinal space, was ten centimeters in length and extended from the manubrium sterni to the ensiform process. Its thickness was eight and a half centimeters, its width eleven. The case is plainly one that originated in intra-uterine life. It was observed only when the substernal portion found an outlet through an intercostal space. The large volume of the tumor and the generally slow growth of lipoma, militate against the assumption that it could be extra-uterine.

Another case reported by C. Vogt, is one in which the tumor was attached to the *common jugalar vein.* A male child, from Cincinnati, healthy, vigorous, normal, showed immediately after birth an anomaly resembling a naevus on the neck. It grew very fast, and developed into a tumor. It was examined first on the 12th of June, 1865; on that day the anterior portion of the neck was covered with a tumor resembling a large goitre; it was of the size of the fist, extended from the left acromio-clavicular articulation to the right side of the trachea, thereby covering the trachea, larynx and jugular, and the whole of the part between the lower jaw and the clavicle. A month afterward it was extirpated and the lipoma was found to be located on the wall of the common jugular vein, from which it had originated.

Another lipoma reported by him is that which was extirpated from the *cervical regions* of a boy of twelve years. He had a small tumor in that neighborhood when born; it grew very slowly but constantly, and had reached the size of the fist when he was admitted; it was painless, soft, but little movable. The diagnosis was verified by the result of the operation.

When I was a student in the University of Bonn, Prof. Wutzer operated on a tumor located on the *neck of* a girl four and a half years old. The report, by C. O. Weber, is found in Müller's. Archiv., 1851. It was a mixture of teleangiectasia, lipoma and fibroma.

Dr. C. Hilton Fagge (Pathol. Trans. 1874, Vol. XXV., p. 268) reports fatty tumors from the posterior *triangle of the neck*, (and a goitrous thyroid body) from a case of sporadic cretinism. In the upper part of the right lobe of the thyroid body was a rounded tumor the size of a walnut, lying deeply beneath the sterno-thyroid muscle. The tumors outside the sterno-thyroid muscle were found to be soft, well-defined masses, looking like fat, but distinctly differing in color from the subcutaneous fat in their neighborhood. For whereas the fat generally was of a suety whitish-yellow character, these tumors were more of a pinkish hue. On the left side the swelling over-lapped the clavicle; on the right side it did not appear to do so, but there was an accessory mass the size of an almond, projecting forward between two distinct portions of the sterno-mastoid muscle. Below the clavicle on each side there were somewhat similar masses lying beneath the pectoralis major, between it and the pectoralis minor. These differed less in appearance from the subcutaneous fat. On the right side the mass in question sent a smooth well-defined process forwards between the fasciculi of the pectoralis major.

This case is one of four of sporadic cretinism related by the same author in Vol. LIV. of the Med. Chir. Trans. In each of these fatty tumors were found, either large or small, goitre being present or absent, in the *posterior triangle of the neck.* Their exterior he considers the only constant distinction between sporadic and endemic cretinism.

R. W. Parker (Obst. Jour. Gr. Brit. and Ireland. vol. VIII, p. 659.) removed a fatty tumor from the *neck* of a child. It had no capsule at all, was directly continuous with the subcutaneous fat, of unusually white color and delicate consistency. It grew but slowly, as this class of tumors always will do.

P. Vogt (Die Chirurg. Krankh. der oberen Exhb. 1881. p. 133, in Billroth u. Lücke Deutsche hiré. fasc. 64.) says that the diffuse lipomatosis of the *vola manus* is not the only form of lipoma found in that neighborhood. There are genuine lipomata to be found circumscribed and with slow growth. Where they were congenital, or at least observed during infancy or childhood, they would cease to grow when the development of the body was completed. P. Vogt saw two cases of congenital lipoma, rather diffuse, on the *thumb* without any simultaneous hypertrophy of other tissues. Küster operated several times upon a boy four years of age, for a lipoma extending from the under side of the *fifth finger* to the *elbow,* until he finally succeeded in extirpating it. Trélat and Boinet met each with a lypoma in the *vola manus,* which were taken for hygroma of a tendon. In some cases there was a sense of fluctuation, even crepitation. Volkmann met with one which was transparent. Ranke removed two, one from the vola of the *fourth finger,* one from the *thumb.*

F. A. von Ammon (Die Angeb. Chir. Krankh. d. Menschen, Berlin, 1842, p. 136) describes, and draws on plate XXXII. of his atlas, a lipoma complicated with naevus on the *arm* of a child. It was extirpated. The cutis was in part degenerated, in part uneven, with solid prominences, some of which were of almost cartilaginous consistency. They contained fat and were covered with hair. A similar tumor (p. 135, the same plate) was removed from the *cheek* of a young man.

Aschoff (Monatssch, f. Geb. XXX., 1867, p. 199) described the case of a boy of three years with a lipoma of the size of the fist under the *right axilla.* The *fifth finger* on the right hand showed the following anomalies: it was very big and long, and abnormally movable. Its extension was perfectly free, perhaps too much so. Flexion, however, was impossible, rendered so by thick deposits of fat of the size of the finger. The anterior portion of finger exhibited such an amount of fat that it surpassed all the rest in length. There were no such abnormal deposits of fat on the dorsum, but they extended up to the elbow on the volar and ulnar side. All these anomalies were congenital.

W. Busch, (Arch. f. Klin. Chir. VIII. 1865, p. 174,) reports the case of a girl of twelve years, with hypertrophy of the *webbed second and third toes* of the right foot and lipomatous degeneration of the adipose tissue. On both the plantar and dorsal side the latter was an inch in thickness.

He also reports the case of a man of twenty whose foot had to be amputated because of hypertrophy, (mostly osseous) of the *first three toes* of the left foot. The lipoma was both diffuse and localised. Fat was in close connection with the skin. The latter was thin in several places, perhaps atrophied by the pressure from inside; in others it was thicker, and the fat imbedded in fibrous masses. The softer lipomata in the interior forced their way between the bones. These were isolated lipomata of the *dorsum pedis* surrounded by a network of largely dilated veins.

In both of these cases the lipomatous degeneration formed part of the general gigantic growth. Lipomata when congenital, may occur on both the exterior and flexor side of the extremities, but favor the latter. This is contrary to what is observed in advanced life, when lipomata never originate on the volar aspect of the hand or the plantar side of the foot.

L. Rose describes (Mon. f. Geb. XXX., 1879, p. 342) the body of a child that died when a year old, with remarkable enlargement of the *two lower extremities.* The increase in size was due to both a lipomatous and a fibromatous degeneration, together with tangiectatic anomalies. The two former excluded each other; they were found in different localities. Most of the lipomatous degeneration was found to be on the flexor side and diffuse to such a degree that, microscopically, it could be compared with the soft forms of elephantiasis.

Of 73 cases of lipoma observed by Billroth in the clinical hospitals of Zurich and Vienna, one was congenital. It was located on the *dorsal side* of the *foot* of a male child (Th. Billroth Chirurg. Klinik., etc., Berlin, 1879, p. 581). Two other observations from Billroth's clinic were published by Wittelshoefer (Arch. f. Klin. Chirurg., XXVI., p. 57). Kessler and Annandale have similar cases. S. C. Busey (Amer. Jour. Obst. Feb., 77) has a number of very interesting observations belonging to our subject in his admirable essay on "Congenital Occlusion and Dilatation of Lymph Channels." The whole literature of this special subject of hypertrophy of the extremities is collected by F. Ahlfeld (Die Missbildungen des Menschen, Leipzig, 1880, p. 139.)

The fourth case of C. Vogt's was that of a boy of three years, who on the 11th of May, 1876, exhibited a spherical, not lobulated, tumor of the size of a cherry on the dorsum of the second phalanx of the *index finger.* It had its seat in the subcutaneous cellular tissue, and was easy to extirpate. A lipoma of the *sole of the foot* has been related by Chevallier (Soc. Anat. Bord. II.) and a *congenital calcified lipoma* by L. Briolle (Gaz. Hop. Jan. 23, 1883.)

He extirpated it from the gluteal region of a woman of thirty-five years, October 19th, 1882. When she was born there was a small tumor in the median line of the sacrum. It was believed to be a spina bifida until it grew and exhibited no other symptoms of that congenital anomaly. In 1882 the tumor extended 47 centimeters from the left spina anterior superior over the left and right gluteal regions. Its height and depth were 25 centimeters. The surface was normal, a few dilated veins were observed, but the most remarkable part of the tumor were three distinct masses of evidently osseous nature. It weighed 5540 grammes; when removed it was found that there was no capsule, no cavity, no anatomical complications with the exception of three cretaceous masses which while forming one-quarter of the volume, amounted to three-fourths of the weight of the whole mass.

Ideler (De lipomatibus congenitis adj. casus sing. descriptione. Diss. Berlin, 1855), reports the case of a boy of twelve years, who exhibited a large lipoma in the gluteal region and several small ones on the left leg. Besides there were immense deposits of fat on both feet, mostly in the left plantar and dorsal regions. On both feet the three middle toes were webbed. All these anomalies had been observed at birth.

Henry J. Butlin (Pathol. Trans. 1877, vol. XXVIII. p. 221) removed a fatty tumor containing striated muscular fibres, from a child aged seven years. It had been first noticed when the child was a year old—about the time she began to walk. Its growth for several years had been slow, but during the last few months its increase in size had been more rapid. It occupied the upper and back part of the *right leg*, a little below the knee, was circumscribed and enclosed in a thick capsule, passed between the tibia and fibula, pressing them apart and thrusting the interosseous membrane in front of it. It lay in a deep layer of muscles some of which were removed here and there with the tumor. The fact that there were striated muscular fibres in the tumor, the facility of overlooking the tumor when the infant was young and did not attempt to walk, its slow growth in the first few years, its location on the flexor side of the limb, are as many proofs for its having been congenital.

Mr. Athol Johnson has recorded a case of fatty tumor growing congenitally out of the *sacral canal* (Trans. Path. Society, Vol. VIII. p. 16–28.)

Mr. Gay has related a case of congenital fatty tumor in the *sole of the foot* in which part of the foot was amputated under the belief that the neoplasm was malignant. (Path. Trans. XIV. p. 243.)

Th. Holmes, (Surg. Treatment of the Dis. of Inf. and Childhood, London, 1868, p. 31,) reports the case of fatty tumor of the *neck* of very large size passing into the *axilla* and lying in close apposition to the *sublavian vessels* in a girl of ten years: it is true the tumor had not been noticed by the parents until the child was ten months old. He also has the case of a fibro-fatty tumor of the neck attached to the spine in a male infant of three years, of uncertain duration. In this case also the mother asserted it was not congenital. (l. c. chap. XXI.)

Simon Duplay (Arch. Gén. 6, Sér. XII., p. 723, 1868) refers to a lipoma in the *coccygeal region.* It is of very rare occurrence. It is attached to the end of the coccyx or to its anterior surface. Besides, tail-like neoplasms are found in this neighborhood, either osseous or soft. They are at the lower point of the bone; the former are supplementary vertebræ, the latter consist of fat.

Of a similar nature appears to have been the case of Faber's mentioned by Ammon (l. c. p. 46).

Suttina removed a lipoma 330 grammes in weight, from the *lumbo-sacral region* of a girl twenty months old. It was of the size of a bean, when it was first observed, the infant being then two months of age. Its centre was in the median line at the juncture of the lumbar and sacral vertebrae. It sloped in the direction of the right hip, was very soft, nodulated and movable, and easily raised, and grew very fast, contrary to what is generally noticed about a lipoma.

The collection of cases extending over nearly a century proves the rare occurrence of congenital lipoma. Every additional case must be considered welcome. It appears that the number of those which have come to my own notice is unusual in the experience of an individual observer.

What I emphasized in my introductory remarks appears to be confirmed by the cases as far as reviewed. Few of them were capsulated, most of them diffuse. Some of the patients had both diffuse and localized and capsulated lipomata. Many were uncomplicated; some were complicated with teleangiectasia, either superficial or deep-seated, or with dermoid degeneration, or fibroma, or the formation of bone or cartilage, or calcification. The most interesting and dangerous complication was that with spina bifida—in my case.

The shape of congenital lipoma is frequently irregular, not spheroid as it is in the adult. This difference is the result of its uncapsulated, diffuse nature. Processes and protuberances are not infrequent, and apt to interfere with complete extirpation.

Its locality varies. Cases have been found all over the body. There is but a single case of lipoma of the head, but a goodly array of those on the back and particularly the lumbar and gluteal regions. Many are found on the extremities; the hands, and still more the feet yield the largest number. Few of these however are uncomplicated; very few of them but are found on the palmar or plantar side, where the acquired lipoma of advanced age is not found.

FOUR CASES OF NEVUS MATERNUS.

RELATED FROM THE OBSERVATION OF BENJAMIN PARKER, M. D.

Presented by W. Thornton Parker, M. D.

The following cases of *Nevus Maternus*, occurring in the practice of my grandfather, may be of interest at the present time. The whole subject seems to be shrouded in mystery, and by bringing these cases to the notice of the medical profession additional light may be obtained.

Our text-books do not afford satisfactory explanation, even when referring to the matter at all. A general awakening of the subject may be desirable.

"A new-born infant was brought in a close carriage from a distance of three or four miles, I being confined to the house at that time by indisposition. It was a male, the first child of a lady with whom and the family I was particularly acquainted. The child was of the usual size. The parietes of the abdomen entirely removed to each side so as to lay bare the intestines from the stomach (scorbiculus cordis) down to the pubis, the different portions of which could be distinctly seen, the anus imperforated. The little fellow was very hungry, and after being fed sufficiently it was affected with the Iliac Passion. * * * * I did not think it worth while to attempt the perforation of the anus, although it was sent for that purpose by the mother." It soon died.

"The history of this unparalleled case was pretty much like this. When about five months gone, the mother being on a visit to her husband's father, sitting at an open window, some small pigs came into the front yard. They were furiously driven out by a dog. One of them, frightened out of his wits, dashed with inconceivable swiftness through the fence. In its way it encountered a snag that cut its belly open the whole length and let out its bowels, the sight of which was so shocking that it overcame her for a little while."

"When the child came it was in the situation briefly stated. The mother told me that she did not ever after feel just exactly right. She had an impression that there was something wrong about the fœtus. At that time of her pregnancy, what could be the condition or form of her burden except that of soundness? Then how, by what application of force, was the abdomen opened and all the intestines uncovered and bare?"

"The reason philosophers deny the existence or power of the mother's imagination in such cases I take to be this: They cannot account for the phenomena, and therefore deny the connexion between the mother's imagination and the phenomena."

CASE II.—"Shortly after my arrival in Virginia application was made to me to remove an encysted tnmor the size of a small nutmeg from the outer canthus of the right eye of a girl three years old. This was accomplished in the usual way. On dissecting the cyst I found the contents were composed of the atheroma of wen like tumors, in the substance of which were mixed a compages of hairs, exactly resembling the eyebrow hairs of a child. On sight of which, the mother, who was present, exclaimed, 'Just so the wound in my husband's eyebrow looked," and related the case on this wise. When she was in the eighth month of pregnancy, her drunken husband in a fracas with a neighbor (one with a sword the other with a knife) got a cut in the face that fell the eyebrow over the eye. He came home in this pickle. His wife, poorly, was lying on the bed. He seized her in his arms, and swore with a terrible oath that she should sew up the wound, she fainted, and when she recovered he compelled her to perform the operation! When the child (a daughter since married) came there was a small tumor with a scar of an *incision* (which I saw) in that part of the face. Now notice the time of pregnancy, and consider the size of the fœtus at the time stated, and how these short organized hairs came into that encysted tumor."

CASE III.—"A lady of my particular acquaintance on James River, Va., when about eight months gone in the family way, accidentally cut the ball of her thumb, very deep and badly. It bled profusely, and she fainted with the loss of blood or the fright. The child, a male, when born had the scar of a recently healed cut, as it appeared on that part of his thumb. Now, this lady was the wife of a Colonel ———, a meritorious officer in the Revolutionary Army, and a lady of the first rank and standing. *How came the cut on the thumb of the fœtus in utero?*"

CASE IV.—The subject of this case is, or rather was, as all her family are, handsome when young. She is distinguished by a large patch of dark, smoked-bacon skin on the left cheek touching the eye!"

The account her mother gave of the spoiling of a pretty face is this: She was sitting by the fire-place when far gone in pregnancy, when suddenly down came a leg of bacon that was smoking in the chimney, and fell close to her with all its necessary clatter and confusion. It frightened her beyond description, from which she recovered not till after a long time. When the child was born it came with that unsightly and never-to-be-got-over mark. Now, did this 'obfuscation' of that part proceed from the mother's exquisite terror?"

A case showing the commoner form of superstition with regard to mother's mark has lately come to my notice. A fairly intelligent Englishwoman claimed that a bright red mark on her child's back was owing to a *longing* for some rare roast beef. She smelt the fumes of the roasting beef at a gentleman's house where she received charity. This superstition of mother's mark from *longing* for lobster or other red or dark red articles of food is quite common. "The moral condition of the mother," says Majendie, "Influences the matters conveyed to the fœtus."[1] Why should it not, as rage injures the nurse's milk, and bitter grief will render the tears excoriating, etc? Majendie believes in the influence of the mother's imagination on the fœtus.

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[1] Majendie Physiology, p. 419.

"Although in some cases it seems scarcely possible not to admit the influence of the mother's imagination, I do not think *that* to be the cause of all monstrosities."[1]

It is related that in 1809 most of the children born after the siege of Vienna were seized with convulsions twenty to thirty days after birth and died. Liebeg says that every mental affection is followed by changes in the chemical nature of secreted fluids. The well known case of idiocy in a French girl from natural fright, related in Andral Clinique, Tom. V., p. 713, is in point. The influence of the mind of the mother on the infant she carries is well known, and her comfort and happiness is especially desirable during this period for the future welfare of her child.

It seems proper in this connection to draw attention to the unreasonable liberty allowed to crippled paupers to appear in public palces.

Some cases have been brought to my notice, and unfortunately they are very common, where pregnant women have spent weeks of worry, after seeing some of these monstrosities, fearing lest the shock caused to them might influence their own off-spring.

It is an outrage on the community and it ought not to be tolerated: the remedy may be a difficult one to carry out, but it is the physicians' duty nevertheless to warn the public against this and other dangers.

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[1] Cooke's Morgagni, Vol. II., p. 503.

MORRISTOWN, N. J.

Clinical Lectures.

INFANT FEEDING.

BY JOHN M. KEATING, M. D.,

Visiting Obstetrician to Philadelphia Hospital. Reported by W. A. Edwards, M. D., Asst. Dem. Clin. Med. University of Pennsylvania.

It has been my custom for some years after having brought before the class numerous cases of children's diseases which make our clinic so interesting, to call your attention to an important branch of your life work, infant feeding, a subject that upon superficial thought seems so simple that the majority of medical students are apt to pass it by as pertaining to the nurse and not to the doctor; yet my associations with recent graduates enables me to say that it is the one subject that comes up before them soon after entering their medical career, and often it is not merely a matter which is important for the moment and easily evaded, but becomes either the portal of entrance to a large practice, or the starting point of embarrassments and disappointments which render their arduous duties even more irksome.

I wish distinctly to state, that though I shall dwell at length upon the feeding of infants with prepared food, I do not wish to be understood to underrate the value of mother's milk or in its stead that of a reliable and well-developed wet-nurse; there are times when a mother cannot and should not nurse her child, a wet nurse should then be the first thought; then again I may also state, at this point, that a child which has been nursed for a short period can be very much more easily brought up by hand than one who is obliged to be hand-fed from birth.

The great question which has always given rise to so much hesitation and difficulty in its answer is upon what food to place a child. This at times is perplexing; it depends upon various conditions; it depends upon age of child, upon its health, upon its residence, country or city, and upon the circumstances of the family. All these should be taken into consideration; is it to be weaned gradually, or is it necessary that hand-feeding should constitute its only supply? If you attempt to study this matter from your text-books, you will be dazed with the number of suggestions there presented. It is well that you should form in your own mind the regular course to follow in such cases, and avoid the unfortunate way of answering your inquirer, the fond mother or nurse, by saying, "try this," or "try that." It should not be a matter of trial.

Let me say now that *milk* should form the basis of all preparations of food. It is not necessary for me to show you the difference between cow's and mother's milk. I will refer you to your physiological tables, and also those of you who read the medical journals of the day to the interesting investigations of Prof. Leeds and Dr. A. V. Meigs, who have studied this matter with great care.

There have been several ways suggested of preparing the food for infants, one taking mother's milk as a guide, and endeavoring to make cow's milk approach the human standard as near as possible by dilution and the addition of sugar of milk. For this purpose Dr. Meigs has suggested the following formula: Order five or six packages of milk sugar, containing seventeen and three-quarter drachms each; the contents of one of these to be dissolved in a pint of water, and each time the child is to be fed let there be mixed together and then warmed, three tablespoonfuls of the sugar solution, two of lime water, two of cream and one of milk. This makes about a gill, and as much of it as the child does not take should be thrown out and a fresh mixture made for the next feeding. The solution of sugar should be kept in a cool place and at once thrown away if it sours, as occurs if kept more than a day or two in warm weather. The dry sugar keeps indefinitely, and is easily dissolved in warm water. A pint bottle should be kept for the purpose of containing the solution, to serve also as a measure of the quantity of water to be used with each package dissolved, and also to save further measuring. The milk to be used should be good ordinary cow's milk, and not the very rich milk of Jersey or other high-bred stock, and the cream in the same way should be such as is usually sold in the cities, and not too rich, containing about sixteen or seventeen per cent. of fat. The quantity of this food taken by a new-born infant should be two or three fluid ounces every two hours, and if it thrive it will soon take as much as a gill every two hours.

Then there are the various preparations in the market of the cereals proper, whose use I shall tell you more of in a few moments, and those of the cereals that have undergone change into dextrine and glucose by malting, and those foods which are composed of milk, either preserved, condensed, or prepared in a more solid form. These preparations are expensive, not to be procured in every drug store, and furthermore are somewhat perishable, so I shall talk to you to-day of the "home-made" foods, to which I advise you to adhere for a time.

Let us suppose that you are confronted with a case in which the mother, having nursed her child for some months, finds her milk gone, and it becomes necessary to establish hand-feeding. She tells you that her child no longer receives the amount of nourishment that it should. Convince yourself of this fact before you make any change; take the appearance of child into consideration, examine its muscles to see if they are firm, and judge whether or not it presents a rosy hue of health. Examine the mother's breast, and if you think that a course of tonics, with outdoor exercise or change of food will increase the supply, by all means have recourse to them before making a change. Remember that the milk does not always remain constantly in the mother's breast, and that frequently those who are able to nourish their children with an abundant supply, have, between nursing hours, scarcely any evidence of milk whatever; the application of the child will, however, produce a flow in a few moments.

I give you all these points because frequently mothers wish to wean their children too young, and I firmly believe that encouragement and firmness on the part of the doctor will in very many cases give a child a far better chance in after life. If the child is six months old, or thereabouts, and you find it necessary to establish hand-feeding at once, the following would probably be the best plan to adopt: Order nurse or mother to take a quart of morning's milk which is pure and fresh—better than not from a mixed dairy—and dilute with a half of a pint of water; put on to boil; take of Robinson's prepared barley, which comes in packages, a heaping dessertspoonful or tablespoonful; rub this to an even paste with a small quantity of milk; then add to it the milk that is boiling, and *stir this for twenty to thirty minutes*, letting it boil. This should be strained, and a small quantity, say a teaspoonful, of white sugar added to it, the whole to be placed in the refrigerator for the day. When cool a jelly will be formed. Of this the child should take about four ounces, made fluid by heating, and strained in bottle or by spoon, every three or four hours. The last feeding would for a time be about ten o'clock in the evening; after a few months the child will need nothing after usual bed-time until first meal in the morning, at about seven o'clock.

Barley flour seems to hold a position somewhat neutral as regards action on the intestinal tract. Should the bowels become constipated, or should you desire to change the food, a preparation of oat meal known as "Bethlehem Oat Meal" can be used in the same way as the prepared barley. The wheat foods may be used in the same way; they are apt to constipate, however.

At times it may be well in preparing the food to mix these various articles, as a child needs a variety in taste as well as a grown person. If a child is younger than six months, of course it will be necessary to add a larger percentage of water and a smaller amount of cereal. I am satisfied, from investigations made last year (Some Observations on the Salivary Digestion of Starch by Infants. Trans., College of Physicians, Third Series, Vol. VI.), that infants are able in some degree to digest a small quantity of starchy food, and that the starch contained in the above described preparation, is not merely useful in preventing the formation of a heavy curd, but that it also is useful in nutrition. I have found the preparation that I have suggested to you applicable in the majority of cases, and especially in those children who are apt to suffer from indigestion during the summer season, with its unfortunate results. It is also useful when gradual weaning is thought advisable. In such cases the child is nursed from the mother in the early morning; after its bath, say ten A. M., it is to take its bottle or cup of food; nurse again at *one* or *two*, a cup of food at six, and again nurse at ten in the evening. As far as condensed milk is concerned, I am satisfied that it is an extremely valuable preparation, but not one upon which it should be attempted to raise a child. It is useful as a bridge to tide over difficulties, and as such can be relied upon, but a child that is brought up on condensed milk alone from an early period is, in my experience, liable to succumb more rapidly to the influence of disorders that other children, either nursed or fed with cow's milk, are able to withstand. Prejudice has frequently interfered with the use of condensed milk, I regret to say. It is certainly nutritious and easy of digestion, and frequently will agree, when properly administered, with a child whose stomach is intolerant of other food. Of the purity of the brand usually used there is no question, and I would advise you to study this matter carefully yourselves, and not throw away a valuable food because many statements are made against it.

It is easy enough to find some form of diet that will nourish a healthy child. The most difficult problem to solve is the food to be administered to an infant who is delicate from birth and cannot nurse, one who is suffering from some form of intestinal catarrh, or one whose digestion has been totally upset by a severe attack of summer complaint.

These are in fact the most difficult cases that we have to deal with; in treating such cases we should bear in mind that a child's food should not be made so extremely weak, in order to avoid all irritating qualities, as to make it fail in its object of supplying nutrition, but we must endeavor to make the child's digestive functions meet us half way, and thereby establish an equilibrium; we can either do this by the administration of those drugs which are known to facilitate digestion, such as the various forms of pepsine or pancreatine as the case demands, or we should endeavor by tonic influences to bring about a healthy establishment of the functions of those organs whose secretions are needed for the proper digestion of food.

If a child is so weak and exhausted that it will not digest the mildest form of prepared food, and it is impossible to obtain breast milk, for this should be our first thought, it is useless to weaken the condensed milk, or whatever we use, to such a degree as to make it absolutely valueless as a nutrient; the proper thing to do, under such circumstances, is in my opinion, to give some form of food which requires but little action of the digestive juices, or to prepare the food so that it is partially digested beforehand.

I have used for some time with great advantage, egg albumen dissolved in water, as a food for sick children when the stomach was intolerant of ordinary milk food, also gum arabic water will nourish for a surprisingly long time, and allay irritability.

The barley food as recommended above, would be valueless in a case of this kind, and pure cow's milk diluted to resemble as closely as possible the mother's milk, would be regurgitated; in such cases, and they are very frequent in the summer months, especially if you are called much in consultation practice, the preparation of milk which has undergone partial digestion by the pancreatic ferment, in an alkaline condition, I have found most useful. The preparation is one which must be made with care and according to the following directions: Into a clean quart bottle put a powder of five grains of Extractum Pancreatis and fifteen grains of bi-carbonate of soda, and a gill of water; shake; then add a pint of fresh milk. Place the bottle in a pitcher of hot water, or set the bottle aside in a warm place for an hour or an hour and a half, to keep the milk warm; by this time the milk will become peptonised. When the contents of the bottle acquire a grayish yellow color and a slightly bitter taste, then the milk is thoroughly peptonised; that is to say, that the caseine of the milk has been digested into peptone. Great heat or cold will destroy this digestive action, so to prevent all further action, when you think that the digestion has progressed far enough, at once place the bottle of peptonised milk on ice, or into a vessel of boiling water long enough to scald its contents; it may then be kept like ordinary milk.

I have found from experience that it will be objectionable to the child if the bitter taste is at all well marked; the mother, who should receive your instructions, should be warned to frequently taste the milk during its digestion, and as soon as the bitter taste is the *least* apparent, the bottle should be placed on the ice for cooling and use, as in these instances it is sufficient to partially peptonise the milk.

I mention these facts particularly, as strange to say, I have always failed with it in hospital practice, whereas in private practice I have had some excellent results, owing, I think, to extra care in its preparation.

Whey is another admirable alternative in these cases; it can be made in the usual way by rennet and afterward sweetened slightly and given to the child cold or warm as it prefers, in the same manner as ordinary bottle feeding; it may be made with wine and given when there is great weakness, being both nourishment and stimulant. Mothers do no not often know how to make wine whey; the proper method is to put the milk to boil and when boiling put a wineglassful of sherry, say to the pint, into it, if the curd does not separate add more wine until it does and as soon as you notice separation of the curd taking place add no more wine, but let the mixture boil for a time, until the whey and curd have been thoroughly separated, consuming about five minutes. This should be then thoroughly strained. It has been recommended to use lime water in the feeding of infants and young children. I am opposed to its indiscriminate use. I have seen children who could not tolerate even the ordinary weak preparation of the pharmacopeia ; undoubtedly at times it may arrest vomiting, as we all know, both in children and adult practice, but I much prefer when it is necessary to use an alkali, and if you use cow's milk raw for a young babe, it is always advisable to see that it is made alkaline, to do it with a small quantity of bi-carbonate of soda.

The food which I have recommended to you above for the weaning of children I am sure that you will find it to work satisfactorily, especially in large cities, where the milk supply is so apt not to be reliable, and on that account so difficult to keep sweet without boiling. I have one word of caution to give you in regard to the use of nursing bottles. They are certainly useful as labor-saving machines in early infancy, and when thoroughly cleaned and carefully watched are no doubt indispensable, but I have long since come to the conclusion that if you can persuade the mother and nurse to take the time and have the patience to feed a child that is old enough to manage by the cup or spoon, the word *colic* will seldom meet you in your practice. I am convinced that in institutions for foundlings, if it could be possible to discard the bottle, the percentage of death would be very much diminished.

CONGENITAL CLUB-FOOT.

Extracts of Clinical Lectures Delivered by

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Gentlemen.—To-day let us study together the deformity called club-foot. To invite your attention to an affliction, known to us all, and upon which many excellent articles have been written, and the treatment of which is looked upon as the common property of the profession, you may think strange. But as we meet with different forms, the congenital, the paralytic, and the acquired, in our practice, therefore it is important to know how to make a correct diagnosis of each.

To begin with let us consider the first, namely, congenital. I shall present to you a typical case. This baby here, is three weeks old, the son of Mr. and Mrs. Leo Seibert of Bloomingdale, Mo., sent to me by Dr. Lanning of that city for treatment. Here we have a *talipes equino varus* of both feet. I shall first demonstrate to you a simple and effective mode of dressing for the relief of this deformity, after that we shall continue our subject. *(Dressings were applied with explanation.)*

Now I ask you, have you not in your practice frequently met children or young people, who, having been treated successfully, either by operative or mechanical means, and afterwards having walked about for some time, with or without any apparatus, have at last completely relapsed into their former deformity? I feel sure, most all of you have seen such, and I assure you, I have more than once. Now there must be something which favors these relapses. It is either a deficiency of our theoretical knowledge or a mistake in the method of general treatment adopted? To explore the cause of the fault, if any, it will be necessary, first, to study the etiology of a congenital club-foot; second, to remember and study well the development of the bones, as well as the ligaments, that belong to this part of the human frame.

The theories of the cause of a *pes equinus varus congenitus* have from time to time undergone various changes. Electro-physiology especially tried to prove, but in a one-sided manner, that the abnormal position of the feet depends solely on paralysis of certain muscles on the one hand, and the consecutive contraction of the antagonistic group of muscles on the other hand, and thereby displaced for a time the mechanical theories entirely. But let us remember, that what may be true or correct to a certain degree for a paralyzed club-foot, cannot always be correct for a congenital club-foot. The muscles of a congenital club-foot are not paralyzed, and if such muscles answer less to electrical irritation, or produce less intense effect upon the joints belonging to them than they do in the perfect, normal individual, paralysis will not account for club-foot (congenital). If paralysis were the cause, there would also be a disturbed nutrition of the affected group of muscles present, which is never the case in congenital club-foot. We can observe this at once in a case of a single congenital club-foot, where we can easily compare the muscles of both extremities.

We also have heard of the influence of the nerves upon the primary contraction of the muscles, but with children who are perfectly healthy and otherwise well formed this is out of the question, for the muscles do not remain in a continuate or unconquered state of contraction that has the slightest similarity to to a convulsive condition. As to the theory of diseases of the nervovs system, either of the peripheral or central, we know nothing in its favor, if we except those cases which we term paralyzed congenital club-foot, and where we have to admit acquired intra-uterine lesion in the central nervous organs, and which has been satisfactorily demonstrated by autopsies.

In opposition to this theory, we have the one of arrest of development as the cause of a congenital club-foot. But let us not understand by this that any one part has not been fully developed, or even has a deficiency. Such club-feet we meet with where the abnormal position depends upon the omission of one or more bones. Of these I do not speak at present; I rather mean a continuance of the fetal position after delivery.

In new-born infants of a few weeks old, nay, even of those a few months old, we will observe that the external edge of the foot is turned into pronation. This is the position of club-foot, which, from the time of birth until the time when the child begins to walk, gradually ceases in intensity, while the position of a true club-foot will remain as it was in fetal life.

This persistence of fetal position is not alone confined to the feet. We will find an analogical relation in the position of the knee joint. If we lay down a child, free and easy, it will draw the lower legs upon the thigh, and rotate them a little inward; therefore the points of the feet will come together, and after a little while upon one another. Very small children like to bend the hip joints; the thigh is then adducted and rotated inward, and here we find again the intra-uterine position, and this point pray do not forget. And here I wish to say that the position of the feet and legs which we term equino varus is really a physiological position, that is continually decreased from the time of birth, and as it gradually reverses becomes turned in the opposite direction, when the weight of the body rests upon the sole of the feet; in fact, they acquire a position of abduction, especially when shoes or boots are worn. The knee and hip joint straighten, the internal condyle of the femur becomes more prominent than the external condyle, the rotation of the thigh outward will be more comfortable, and, in short, the whole extremity rolls more from the inside towards the outside.

Now we come to the important question. What are the causes that disturb the physiological development, so that the fetal position remains persistent or even becomes more aggravated after birth? We may reject at once the opinion that the contraction of the ligaments of the feet is the cause of this deformity, for ligaments can only contract by an inflammatory process, their contraction is secondary.

The constant anatomical fact, upon which some authors lay stress is, that the joints of the tarsal bones in congenital club-foot, have a different formation than the joints of other normal born children, and in accordance with this, we also find single tarsal bones which have obtained a certain change of form, especially the cuboid and scaphoid bones, and it is therefore without doubt that our efforts to cure club-foot by the orthopedic method finds its resistance in the bony parts, a resistance which after such a club-foot has for a long time been used for walking, it is almost impossible to overcome. The form of tarsal joint is similar to that which we observe always in the period of fetal life. And now we have the question, What are the causes that check the development of the joint? and has it been at the time of birth, upon a still lower grade of develepment? Now we have seen that the weight of the body and the use of the extremities, change the joints from the fetal position into the normal adult position, and we also know that the form of the tnrsal joint and the knee joint in the new-born, are very different from that of the child who has walked for some time. This change is produced by the use of the leg and feet, the facets of the joints, so to say, will grind themselves aright in the best adapted and most useful way, that is by the change of the axis of the two bones towards each other, the plane of the cartilage follows, and wherever the contact with the facing bone ceases, there will be atrophy, and in the opposite condition and direction there will be cartilaginous tissue produced. This is an acknowledged law in the history of the development of the skeleton, and we are well acquainted with quite anological precedents from pathology. Let us remember, for instance, that in old luxations, the joints are filled up with cartilage, and after resections of the elbow joint, cartilaginous joints are developed. These pathological joints are brought about by the use of the extremities and by a judicious use no doubt, certain given forms must be produced.

If we therefore take into consideration the pathological and physiological process, and see joints developed and changes perfected, we may draw the conclusion, that when a joint remains at a certain stage of development, and which in accordance with physiological laws, should be completely developed; the causes are, want of active motion of the parts, want of the proper antagonizing bone. Let me here hint, that the joints in congenital club-foot, tarsal as well as knee and hip joints are not without the power of development after birth. For we will find them in a later period, especially after the use of such joints, shifted from their previous position (?) and changed in form. This also tells us, that when a joint remains inactive at a certain stage, and still possesses power of development, that this can only be enjoined, through the want of muscular action, or the want of motion by weight.

As the movements of the muscles and the changes of position of the fetus, will not be prevented by paralysis of the muscles, as we have seen, therefore we would return again to the old theory, which demonstrates that the cause of congenital club-foot is want of space in the uterus. (Hippocrates, Amb. Paré.)

Let us now study the anatomical and physiological relations of club-foot in regard to this theory.

In fetal life the movements of the child occur at regular normal intervals. These movements are sometimes oftener and more distinct, or more perceivable, than at others. Perhaps change of position of a single extremity at a time, like the spasm of a muscle, just as if such changes of position of the child were necessary and may have been intended for the purpose of permitting no definite state of contractions of any one muscle, and to serve for the development of the joints. If, now, the fetus is deprived of the possibility of motion, and has to remain in a constant position, the muscles will, according to nature's law, remain in a state of contraction; that is to say, they will not permit passive extension without the employment of force. Such examples you may see every day in the adult. We only need to remember the contraction of the biceps brachialis, after a plaster of paris dressing for fracture of the forearm, and where the arm has remained for some weeks in a bent position it takes either violent extension or gradual exercise to make the arm useful again. Take also the contraction of the muscles in curvature of the knee, which, as a rule, requires division of the tendons. We will find the triceps muscles in the same condition in fetal life. In the general position of the fetus, with flexion of the leg against the thigh, with adduction of the foot, are the points of insertion of these muscles brought nearer together (approach towards each other), and they must become contracted, and the tendons are most prominent, and their tension is so well known in *Pes equino varus*, and is the same as the tension of the tendon of the biceps muscles after removal of the plaster dressing. However, these muscles which have an opposite action will become extended, or will be in a state of extension, and by a continual separation of their points of insertion gain in length, and if we now try their action, for example, by electricity, we will find, in consequence of their elongation, a very small amount of contractility, even after their antagonists have ceased to be contracted.

These muscles (extensors of the legs) are by no means paralyzed, and just as these muscles which have been contracted are able to expand again, so are those that have been extended able to contract again, as soon as their points of insertion are brought in nearer relation to each other.

We see therefore, that it is not necessary at all, for an explanation of club-foot to seize upon the hypothesis of diseases of the nervous system. If muscles are not capable of action, because the extremities are more or less fixed, then the joints must remain in that state they are fixed in, during the period of fetal life, and the general development of the fetus, cannot influence this condition, and wherever pressure or extension acts upon a bone, its form must be changed thereby, so that at birth a foot that has been in a constant fixed position, must necessarily offer other joint-and-bone relations than the normal one. And upon these changed conditions of the skeleton of the foot, depends all difficulties which we have to conquer in the treatment. We are never able, after correction of the contracted muscles, at once to straighten the foot; it needs continued pressure, acting in the opposite directions.

The ligaments of the foot also take part in this fixed position in fetal life, in a way similar to the muscles, that is, where the points of insertion approach each other, they shrivel or contract, or rather are not developed to their proper size. This is best observed in the *plantar aponeurosis* whose contraction is so highly developed in club-foot, as to be extraordinary, and often times we are obliged to divide the same to enable us to straighten the metatarsal bones and toes.

Now this contraction of the *plantar aponeurosis*, if it remains after birth, I believe is the reason that the metatarsal bones become shortened, and notwithstanding that the foot may have acquired its normal position by art, still they appear to be shorter than in a healthy foot.

We have seen then, that there is no difficulty in tracing the anatomical and physiological condition of congenital club-foot, back to a want of space for the fetus *in utero.* The next question would be this, do facts agree with the theory? can we prove that such compression upon the fetus exist?

We should *a priori* take it for granted that with a high grade of contraction from the walls of the uterus, we would find occasionally other deformities of the extremeties, for the position of the fetus in utero is not always the same. We reed not go into details about that, suffice it to say that it has been demonstrated that congenital club-foot, club-hand, etc., have been producéd by the above cause. And what causes the pressure of the walls of the uterus upon the fetus? The absence of amniotic fluid. It is in those cases where it is wanting that we meet most frequently with deformities. There may also be other reasons or causes, such as tumors.

From all these observations, we learn that our theory of tbe productive cause of congenital club-foot is the most rational explanation. If such club-foot does remain until the time when the child begins to walk, without corrections either by mechanical or operative treatment, then of course the perverted condition, will increase, and in all cases of contracted muscles atrophy of the same will follow, because they are in a useless condition, and such unfortunates will walk as if they had a pair of stilts instead of a pair of legs, and if such a child continue to walk the evil increases, for the weight of the body begins to act, and the axis of the leg falls further outside upon the foot, and will turn the external edge more and more downwards and inwards, and often snch a person will walk upon the dorsal side. If such a patient applies for treatment, we shall find it a very difficult work to remedy such a deformity any ways satisfactorily for future usefulness.

This will then be agreed that it is necessary to treat club-feet, if we would succeed, early as possible.

Clinical Memoranda.

RETRO-ESOPHAGEAL ABSCESS; TRACHEOTOMY; DEATH FROM EXHAUSTION.

BY JOHN H. RIPLEY, M. D.

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Irwin R., three years old, had been a well baby until eighteen months old, when he had an attack of malarial intermittent fever lasting two weeks. Soon after recovering from this he had a second attack which terminated in recovery in about the same time. He remained well a few days and was then seized with whooping-cough which continued four months. Hardly had he recovered from this disease when measles supervened complicated with ulcerated corneæ which were slow in healing. One day early in September, 1880, about a year after his sickness from measles, he came up from the yard where he had been playing, appearing to be stiff and lame, although he had met with no accident so far as the mother could ascertain. Since then he has been troubled with pains and weakness in his lower extremities, especially after sitting awhile; and, sometimes when awakening from a long sleep he is unable to walk without assistance until he has been up for fifteen or twenty minutes. Two and a half months ago he had a severe attack of nasal catarrh which compelled him to breathe through his mouth for several weeks. About a month ago a dry wheezy cough was developed which has continued since. During the last week it has been very harassing and his breathing at times difficult. Two weeks ago the mother noticed that the boy's shoulders drooped and that there was a ring of swelling around the root of the neck. Soon afterward she also observed that the neck was stiff and the head thrown back and pressed down between the shoulders. January 22, 1881, I saw him for the first time, at my office. Inspiration was obstructed and accompanied with stridor, while expiration was comparatively free. There was slight hoarseness. The neck was drawn between the shoulders, the muscles rigid, the head thrown backward and its motions impaired and painful. The soft parts of the neck in front were bulging and the veins much distended. Nothing was visible in the throat to account for the symptoms and only an abnormal projection of the bony structures was felt by a digital examination of the pharynx. The spinous processes of the upper dorsal vertebræ were unusually prominent, and this deformity could not be corrected by placing the child on its face. The lungs were generally tympanitic on percussion. Large mucous rales were heard on auscultation, but the pulmonary sounds were mostly obscured by the laryngeal ronchi. The diagnosis of caries of the vertebræ producing paralysis of the vocal cords by pressure was made. A simple antispasmodic mixture was ordered and the mother directed to apply hot poultices to the child's neck. Three days later (January 25) I was sent for because the breathing had become so much worse that suffocation was feared. I found the child suffering more gravely from dyspnea than when I saw it before, the principal obstruction still being with inspiration and the voice not lost. Tracheotomy was proposed as a means of at least temporary relief and consented to by the parents. Returning an hour later with Drs. W. A. Hawes and Charles Milne, whom I had engaged to assist me, I was informed that the patient had been sleeping quietly during my absence and was then just awakening. This statement was barely completed when the child was seized with an attack of dyspnea so severe that in a couple of minutes it was making only a few dying gasps, and by the time we had placed it on the table and begun the operation, respiration had entirely ceased. The heart, however, continued to beat. Only a few seconds were required for opening the trachea and introducing the tube, when artificial respiration according to the method of Sylvester was resorted to. After about five minutes voluntary respiration was re-established and soon became easy and regular. During the twenty-four hours following the child was quite comfortable. The temperature was about 102°. The cough, however, which had been rather troublesome from the first, became more frequent and harassing and the patient died of exhaustion the following night, fifty-two hours after the operation. The partial *post-mortem* allowed was made the following day with the assistance of Dr. Robt. Milbank. Only the interior of the chest and neck was examined. The right lung was pretty generally bound to the chest wall by old and very firm adhesions. The left lung was adherent in the same way but to a much less extent. The thoracic organs together with the trachea and larynx were then removed for examination. The lungs were generally hyperinflated with here and there small areas of recent collapse and also a few congested patches; the latter changes were most numerous in the right lung. The trachea and larynx were congested but otherwise normal. In dissecting up the esophagus we came upon a pear-shaped, soft, fluctuating tumor about the size of a hen's egg, its base upward and lying in front of the fifth and sixth cervical vertebræ. It was flattened in its antero-posterior diameter. On puncturing it there escaped about ℥iss of thick, purulent but almost odorless fluid. On thrusting my finger into the cavity of the emptied sac I felt the rough denuded bodies of the subjacent vertebræ. Passing my finger upward as far as the fourth cervical I found the body of this vertebra necrosed and partially broken down. A trapezoid-shaped fragment of dead bone, measuring half an inch in its longest diameter, was lying loose between ragged lateral walls near the center of the body. The bodies of the fifth, sixth and seventh cervical and the first dorsal vertebræ were more or less denuded and carious.

Remarks—Although the elements of spasm and œdema probably entered into the pathology of this case, still I think from the history and *post mortem* appearances, that the chief cause of the progressive dyspnea was direct pressure of the abscess upon the branches of the recunent laryngeal nerve supplying the respiratory muscles of the larynx.

Cases of obstruction—*Post-pharyngeal abscess* are comparatively quite common, a majority of them not depending on carious vertebræ. But from my own experience I should judge that *post-esophageal abscess* producing grave respiratory symptoms by pressure is rare. Dr. Henry D. Chapin has recently, (October 24th, 1883), reported a case to the N. Y. Path. Soc. Dr. V. P. Gibney in his immense experience with spinal caries has met with only two cases. Dr. James Knight, for twenty years surgeon-in-chief to the New York Hospital for the Ruptured and Crippled, says that he has not seen more than half a dozen cases. One of these, a child, when nearly dead of suffocation, was suddenly relieved by rupture of the abscess into the esophagus.

In the case herewith reported there was no dysphalgia, and, in my experience with tumors pressing upon the esophagus, of whatever nature, there has not been, usually, any considerable difficulty in deglutition. This seems to be the common experience of observers, and the reason therefor, as given by Zenky and Von Ziemssen, is perfectly satisfactory: "This is readily explained by the fact that pressure is usually made only on one side, so that the esophagus, surrounded only by open connective tissue, easily yields before the pressure, and accordingly its calibre is not interfered with to any extent. It is only when there is general compression on all sides, as, for example, when occasioned in rare cases by enlarged cervical glands pressing in every direction, and in compression by very extensive growths embracing the tube, or when the esophagus, by previous fixation is prevented from yielding, that these pathological conditions are of great importance as regards deglutition."

POISONING FROM CHLOROFORM TAKEN INTERNALLY.

BY T. E. MCARDLE, A. M., M. D.

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In December, 1883, I was attending Louise R., six years of age, for measles. The characteristic symptoms were waning, and the child was rapidly returning to health. As she seemed more feverish than usual in the afternoon of the sixth, the mother determined to give the patient a dessertspoonful of the fever mixture I had ordered some days before. By mistake she gave the child a dessertspoonful of Squibb's chloroform. No sooner had she done so than the odor made her aware of the substitution. Messengers were immediately dispatched for any physician that could be found, and the husband started for my office. Unfortunately I was not at home. Arriving soon after, however, I drove quickly towards the house. On the way I met my friend Dr. H. H. Barker, who had been to see the patient and was returning to his office for his galvanic battery. Having procured it, we drove hurriedly to the house of my patient. We found there Drs. Wolhaupter and Adams, who were endeavoring to promote respiration. An emetic dose of sulphate of zinc had been given and the child had vomited freely. She had been placed in a hot mustard bath, and they had endeavored to make her swallow several teaspoonfuls of whiskey.

Despite all this, however, she seemed to be sinking rapidly. Her respiratory efforts were very feeble, her heart-beats scarcely perceptible, the conjunctiva was not responsive, her teeth were clenched, her limbs fell listlessly where placed, she made no movement, uttered no sound, the loudest cry failed to elicit a response, she was cold and nearly pulseless—in a word, death seemed imminent.

Dr. Barker having prepared the battery, Gaiffé's, one pole was applied in the cervical region at the anterior surface of the sterno-cledio-mastoideus, the other was drawn along the course of the phrenic nerve. Every muscle of the chest and abdomen was made in turn to feel the electric current.

For five minutes this was done without any perceptible change in the child's condition. But soon her pulse began to be distinguishable at the wrist, her respiratory muscles began to act emphatically, her breathing could be discerned, her eyelids closed on touching the conjunctiva, she sat up and threw away the electrodes when we forced them into both her palms.

Again, though, she immediately dropped off into a heavy slumber, and once more the battery had to be applied. After half an hour of constant application she was sufficiently conscious to reply to her mother's questions. We then desisted from our efforts, prescribed some stimulant, gave cracked ice, and kept the patient awake. I ordered a mustard plaster to be placed over the epigastrium, which was done during the night whilst she was asleep. She slept well, and experienced no untoward symptoms afterwards.

Translations.

BY AND. F. CURRIER, M. D.,

New York.

Baginsky, Borner and Gutmann: Rules for the Proper Care and Bringing-up of Infants. (*Archiv. f. Kindhlkde.* IV. 11 and 12.)

I. NOURISHMENT.

1. The natural food of an infant is mother's milk.

There is nothing which is so suitable. The only cases in which a substitute is allowable are, (a) when the maternal supply is deficient; (b) when the mother is diseased, especially if with pulmonary trouble; (c) when her employment absolutely forbids regular periods for suckling.

2. Lactation ought to begin after the mother has rested from the pains of parturition, and has been refreshed by six or eight hours of sleep.

3. The infant should have regular hours for nursing; in the first week this should occur at intervals of two or three hours. Afterwards five times a day will suffice. From eleven at night, until six in the morning, it had better be dispensed with.

4. An infant is not necessarily hungry whenever it cries; a little investigation may be profitable.

5. Weaning should be a gradual process beginning at the eleventh month. In large cities it is better not to wean during the summer.

6. A wet-nurse is the best substitute for the mother should her breasts fail; the wet-nurse should be properly accredited in every respect. During the first month of life the child should gain from twenty to thirty grams in weight, daily, in order to do well.

7. Next to a wet-nurse, cows' milk is the best substitute for mother's milk, and it should be made as nearly like that as it is possible. It should be boiled, of a temperature of 37° C. recently drawn, and not skimmed. It should be mixed from the product of several cows (not from one), which are perfectly healthy, and fed on dry fodder. To each litre of milk, twenty or thirty grams of sugar should be added. During the first few weeks of life water and milk should be given in equal parts; gradually the water may be diminished, and by the sixth month pure milk may be given. Begin by giving small quantities, when the child is six months old, a pint at a time may be given, at intervals of three hours, excepting at night. After the seventh month a little oat-meal or arrow root may be added. If undigested milk appears in the stools, it is very evident that it is being given in too concentrated a form.

8. If an infant cannot tolerate cows' milk, we can give it the cream-mixture of Kehrer, or of Biedert. Such a mixture consists of one-eighth of a litre of sweet cream, three-eighths of a litre of boiling water, and fifteen grams of sugar of milk. This should gradually be made richer in milk, at intervals of about a week, until at length pure

milk is given. The examination of the stools from time to time will show whether the food is too rich or not. Conserves of milk, (condensed milk, etc.,) prepared with sugar, should be used in the proportion of one to twelve or fifteen of water during the first few months of life. Conserves prepared without sugar are the best for use, as they can be adapted to any period of infancy. Whatever kind is used, it should be examined very carefully when the package is first opened, to be certain that it is not spoiled.

9. Previous to the fourth month no flour should be mixed with the food. Above all things the nursing bottle should be kept scrupulously clean.

II. CLOTHING, COUCH, ETC.

10. The clothing should be simple and easily changed, It should be warm, and sufficiently loose to allow of the free play of the articulations. The head should go uncovered, or with only a thin hood. Pins of all kinds should be discarded from babies clothing. There should be no curtains around the crib. A mattress should be used for a couch, or else a sac filled with finely chopped straw, the head should rest upon a low pillow. It is well to remember that it is a good plan to change an infant's position occasionally, and not keep it on the back or on the side all the time. No cradles, and not too much walking about with infants. By these means children are exposed to cold, and deviations of the vertebral column.

11. A new-born infant should be kept in a well-ventilated room, with a temperature of 15° R. Anything which would vitiate the air of the room must be avoided. An infant should never sleep in the bed with its mother or wet-nurse.

12. As soon as a child is three weeks old, it may be taken out of doors if the weather is warm.

III. CARE OF THE SKIN, CLEANLINESS, DENTITION.

13. During the first year of life a bath should be given every day in water at 28° R. It should last ten minutes, then after a hasty drying, the child should be partly dressed, put in bed for an hour, and then dressed entirely. This is the best way to avoid chills.

14. An infant's mouth should be cleansed several times a day with a soft fine rag dipped in clear water. This is especially important in summer and during dentition.

15. With proper attention to cleanliness excoriations will be avoided. If they have occurred a solution of

Goulard's extract affords a very useful lotion, or in place of this, pomades or starch flour may be applied.

16. It is a mistake to think that dentition should, of necessity, make a child sick. Disease during that period may be entirely independent of it. Especially is this the case concerning the summer diarrhœa of infants.

Pott: The Employment of Different Antiseptics with Vaccination Lymph. (*Archiv. f. Kindhlkde.* B. IV. H. 11 and 12.)

This paper gives an abstract of the results of a series of experiments in which vaccination was performed with lymph mixed with various antiseptic substances.

The substances used were carbolic acid in solutions varying in strength from one to five per cent. and solutions of salicylic acid, (1:300) boric acid (35:100) and thymol (1:1000.) These were mixed separately with humanized lymph, in equal parts, in all cases excepting with the thymol. With this latter substance it is thought that the best results will follow a mixture of one of lymph and three of it. The mingling was done with great care, all extraneous substances being removed. Fresh preparations, as a rule, gave more perfect results, than those which had been kept some time, even though in hermetically sealed tubes. The carbolic acid mixtures were considered fresh and effective until they were four weeks old. Mixtures with a five per cent. solution of carbolic acid were found to be useless for vaccination, the lymph having apparently undergone a change which rendered it powerless. .The following cases may be assumed to represent the average result with the different mixtures: (1) A one per cent. carbolised lymph produced ten pustules, four of which matured. (2) A two per cent. carbolised lymph produced eight well-developed pustules, with only moderate evidences of inflammation. (3) A three per cent. carbolised lymph produced ten pustules, with considerable inflammation and intestinal irritation. All the symptoms subsided without medication. (4) A four per cent. carbolised lymph produced eight well-developed pustules, which followed the ordinary course. Diarrhœa occurred from the seventh to the ninth days. (5) Salicylated lymph produced ten well-developed pustules. The only disturbance was diarrhœa on the ninth day. (6) Borated lymph produced ten pustules. These were very large, and being opened, yielded twenty capillary tubes of lymph. The reactionary inflammation was considerable, both arms being very red, as to their upper parts, on the eighth day, with the skin, hot, and tense. (7) Thymolized lymph produced ten pustules. These also yielded an abundance of lymph, and were attended with extensive indications of inflammation. The author infers from his experiments however aseptic a vaccination mixture may be, its usefulness is lessened, after the first few weeks, the longer it is kept, or, in other words, antiseptic agents do not have a preservative effect upon vaccination lymph. The practical value of aseptic lymph consists in the facts that it is of a fluid character, is free from fibrinous clots, and will go twice as far as the unmixed variety.

Leichtenstern: On the Treatment of Scarlatina. (*Archivio di patalogia infantile, Nov., 1883.*)

This interesting communication details the extensive experience of the author upon this subject in the Tübingen clinic. He remarks that he has no theories to offer, but simply the results of a wide field of observation. The means upon which he relies most extensively for the treatment of scarlatina is the cold bath, administered from the time that the exanthema is well developed. He usually immerses the child from ten to fifteen minutes. In a test case, the water being at a temperature of 16.8° R. at the outset, there was a gain of 224.6 heat units in fifteen minutes. This will give an idea of the amount of refrigeration which is possible by this treatment. The antipyretic action is manifested not only in the reduction of temperature, but in the lessening or the ending of delirium, the steadying of the heart's action, with lessening of the frequency of the pulse, the relief of dyspnœa, etc. Valuable as is this means of treatment, there are several contra-indications in its use, the chief of which are as follows: (1) Cardiac collapsé or a tendency thereto, with a cold and cyanotic skin. (2) Laryngeal stenosis, when diphtheria complicates the disease. (3) Inflammatory swelling and infiltration of the cellular tissue of the neck, with venous obstruction. (4) Possible impending pharyngeal or nasal hemorrhages from diphtheritic erosions of the large vessels; absolute quiet being imperative. (5) The severe form of poly-articular synovitis and scarlatinous tendinitis, in which the slightest movements are painful. To these more prominent ones, other contra-indications might be added, especially such as arise from complications of the disease. Less reliable, in the author's hands, as an antipyretic, is quinine, which is not without danger in children, from the possibility of *quinine collapse.* If given at all, it should be in small and rather frequent doses. Of salicylic acid he speaks with more confidence as an antipyretic. He usually gives it in the form of the soda salt, in half gramme doses, at intervals of half an hour, until the fever is controlled. In some cases it was effective when the cold bath failed. He thinks its supposed unfavorable effect upon the heart is imaginary. For alimentation he prescribes milk, eggs, gelatine and nutritious soups. Stimulation is often necessary, and for this purpose red wine, cognac or champagne may be given. Massage and counter-irritation, in the form of blisters, are also beneficial at times.

Biedert: Treatment of Diseases of the Nursing Period Arising from Faulty Nutrition by Dietetic Methods. (*Archiv. f. Kindhlkde.*, B. V. H. 1 and 2.)

The author discussed this subject exhaustively at the last meeting for the advancement of Natural Science at Eisenach. He had been in the habit of measuring and weighing the nutriment given in each of a series of cases of disease of this nature and was prepared to record the result of his observations in respect to bodily weight as well as in other respects. Frequent weighing of the body furnished him with an index of the influence of his method of treatment which, as indicated in the title, was purely dietetic in character. The diseases upon which his observations were made were as follows: (1) Cases of dyspepsia and dyspeptic diarrhœa. (2) Cases of chronic gastro-intestinal catarrh. (3) Cases of severe ulcerative enteritis. (4) Cases of acute catarrhal inflammation, [entero-catarrhus-choleraicus, and cholera infantum.] (5) One case of chronic inflammation of the intestines which was thought to be epidemic dysentery. The results of his observations are as follows: (1) In a large majority of cases of gastro-intestinal affections in infants, the kind of nourishment which they receive stands in such intimate relationship with the intensity of the disease that, in some cases, even in severe constitutional disorders, for example, rachitis or chronic inflammation of the lungs, a cure may be brought about merely by changing the nutriment. (2) The quantity of nutriment is a matter of the greatest importance. Upon this subject the author has spoken definitely, in other places, his views as to what is normal. (3) Not only the quantity of nourishment requires regulation but also its degree of concentration. (4) The relation between albumen and fat plays a very important rôle and the commingling of albumen with emulsified fat is much more conducive to the digestion of albumen than is usual, as the elements are combined in cows' milk, and probably as conducive as is their combination in mother's milk. (5) Attention must also be given to the diminished absorption of fat which occasionally occurs, which calls for a reduction of fatty matters in the food. (6) The question as to the rôle which the different albuminoid bodies of the milk play is solved by these investigations, according to the author, to only a very slight degree.

Renou: Application of the Antiseptic Method to the Treatment of Croup and Diphtheritic Pharyngitis. (*Rev. mens. des. Mal. de l'E, Dec., 1883.*)

The method proposed is said to be an improvement over the use of the ordinary atomizer, which is entirely ineffective, as the medicinal substances are forced only to the outer limit of the diseased area. It consists, in fact, in saturating the atmosphere of the sick chamber with the substances to be used, the air respired being charged with them, and thus allowing a rapid absorption of them. The substances which the author uses for this purpose are phenic, salicylic and benzoic acids, in diluted alcoholic solutions. The sick room should be (as in all cases) well ventilated, of moderate size, and of a temperature of 20° to 25° C., the high temperature being chosen because of its greater avidity for moisture. The moisture is to be obtained by means of one or two small petroleum stoves, upon which the vessels containing the mixture to be vaporized are placed. They should each contain about two litres of water, and a portion of the following combinations, viz.: Phenic acid 280 grammes, salicylic acid 56 grammes, benzoic acid 112 grammes, rectified alcohol 468 grammes. About two teaspoonfuls of the mixture should be placed in the two litres of water every three hours. The water should be kept boiling, and the vapor concentrated about the head of the patient by means of some sort of a covering passing from the head of the bed to and over the stove. This treatment should be kept up until the bad symptoms of the patient have disappeared, or until the wound in the throat has healed, if tracheotomy has been performed. The quantity of antiseptics vaporized may exceed that which was mentioned, should the symptoms be very severe, but the danger of phenic acid intoxication must always be borne in mind. For nourishment during this period the author recommends as much coffee, wine and cognac as possible. Fifteen cases of diphtheritic pharyngitis were treated by him after this method, with thirteen recoveries.

Silbermann: Septic Pneumonia in Newly-Born and Young Infants. (*Deutsches Archiv. für Klinische Medicin*, B. XXXIV. H. 3.)

The following are the author's conclusions in respect to the matter under discussion: (1) Septic pneumonia in newly-born and young infants, which always progresses in conjunction with tracheo-bronchitis, must be considered as a catarrhal pneumonia, and usually as one which is produced by the action of foreign bodies. (2) It is caused by aspiration of amnotic fluid, or of genital secretions, or by inspiration of air which is made infectious by means of a septic process in the mother. (3) Septic pneumonia of the new-born usually progresses in conjunction with diseases of the pleura, seldom with diseases of other organs. In this respect it differs from septic processes of other kinds in infants, which are indicated by the appearance of multiple deposits. (4) The alveoli and bronchi of children who have died of septic pneumonia are filled with masses of bacteria. (5) The blood of children who are sick with septic pneumonia shows a superabundance of white, and a crumbling to pieces, and solution of the red blood corpuscles, (6) Icterus is not constantly an attending phenomenon of the disease. (7) The disease most frequently attacks a subject on the first or second day post-partum. (8) The fatal issue, which always occurs, usually takes place on the third or fourth day post-partum. (9) The introduction of septic materials into the lungs of new-born infants is favored by defective closure of the glottis, and by shortness of the principal and tributary bronchi. (10) The great extension of the septic process into the lungs is favored by active epithelial changes and by the narrow calibre of the finest bronchi as well as by the weak expiration of new-born infants, on account of weakness of the muscles of respiration.

Dreyfous: Chronic Meningitis in Children. Its Resemblance to Hereditary Syphilis of Slow Development. (*Rev. mens. des. Mal. de l'E, Nov., 1883.*)

This paper was suggested by the history of a case of meningitis which continued for eight weeks and was diagnosticated as the tubercular form of that disease. The symptoms were headache, vomiting, strabismus, hyperesthesia, the peculiar cry, etc. There were two remissions.

with marked amelioration of symptoms. Death, in convulsions, finally occurred, and after thorough investigation at the autopsy, no trace of tubercles could be found. There *was* found a fibrinous development which affected the serous membranes, and was especially marked upon the arachnoid, and the ependyma of the cerebral ventricles. This was a case therefore of that rare affection *simple chronic meningitis;* its remarkable peculiarities being its long duration, its long and frequent remissions, the absence of a period of retarded pulse and respiration. The case is almost unique, writers upon meningitis, with the exception ef Heuguenin, being silent as to the existence of a simple, chronic, non-tuberculous form. The deductions or quasi-deductions which the author made from this case, supported by the literature of meningitis, and of syphilis, are that the thickening of the serous membranes was probably of a syphilitic character; that iodide of potassium should have been given tentatively; that cases of meningitis which have yielded to iodide of potassium treatment, and are reported as cured, are probably of syphilitic origin; that there is therefore, a fibrous meningitis of syphitlitic origin, or in other words, which is due to hereditary syphilis developed at a later than the usual period.

Sellden: Treatment of Diphtheria with Cyanide of Mercury. (*Jahrb.f. Kindhlkde.* B. XX. H. 4.)

The author made use of a solution of one centigramme of the cyanuret of mercury in one hundred grammes of water and gave it hourly in two teaspoonful doses, day and night. At first he employed a solution ten times as strong, but its bad effects upon the mouth, etc. compelled the reduction. In cases in which children were old enough to gargle, he allowed them to do so every half hour or hour with this solution. In 1881 he treated five cases of diphtheria with this preparation and four of them recovered; in 1882 he treated thirty-two cases only two of which died. Among those who recovered there were very few paralytic *sequelæ.* In addition to the diptheria [all of the cases being well authenticated] he treated two hundred cases of angina of the tonsils and fauces with the same solution, and always with good results. It was with him a conviction that a simple angina might develop into diphtheria, and cases came under his observation which had many of the early symptoms of diphtheria, and was by him considered an abortive form of that disease. These were all treated with the mercury solution upon the supposition that diphtheria might develop. As a means of prophylaxis for persons who were exposed to the contagion of this disease, he was in the habit of giving daily a few teaspoonfuls of this solution to take inwardly, and recommended an occasional gargling beside. As adjuvants to this treatment he employed ice internally and externally—when it could be borne, and free stimulation. The latter procedure he considers very necessary in view of the danger of heart failure.

Chaym: Tracheotomy in Children under two years of age. (*Archiv. f. Kindhlkde.*, B. IV. H. 11 and 12.)

This paper is largely historical and statistical, not inappropriately so however, since it was an inaugural dissertation. The author remarks that the value of tracheotomy in croup and diphtheria was first recognized and introduced into surgical practice in France. It was Trousseau also, who laid down the dictum, that the operation was contra-indicated in subjects under two years of age. This direction has been observed by most operators in France, though with some notable exceptions. In Germany, Austria, England, and America there have been very decided upholders, as well as opposers of the operation, but the weight of opinion, so far as quoted, regards it as usually impracticable. The anatomical difficulties form the chief objection to the operation, the very bad results in cases in which it has been performed, another. In searching the literature of the subject the author finds record of two hundred and twenty cases in which recovery took place. Notwithstanding this small number, for it forms a very small per centage of all operations under two years of age, he thinks that motives of humanity, and a sense of duty should impel surgeons not to discard it, as a last resort. At least it will be the means of producing euthanasia, and that, in such diseases as croup and diphtheria, is a matter which ought not to be left out of consideration.

Blache: Concerning Pains in the Head during the Growing Period. (*Rev. mens. des. Mal. de l'E, March, 1883.*)

It is a matter of common occurence that young people of both sexes are compelled to interrupt their attendance at school on account of a cephalopathy which the author terms *cephalalgia of the growing period.* It commonly occurs between the ages of twelve and eighteen years, is accompanied by dizziness and *malaise* and is excited by any intellectual effort, sometimes even by the reading of an entertaining book. Its location is mainly in the temples but it also involves the hairy scalp from the orbits to the mastoid processes, or even the entire head. The patient is at times irritable, easily excited, or inclined to sadness and to spells of weeping. They are wont to complain that they cannot do as their comrades do. It is a mistaken idea to treat such persons as malingerers, and to attempt compulsory means which cannot possibly yield good results. Together with the phenomena mentioned are also to be seen anomalies of refraction and accommodation, as myopia, hypermetropia and astigmatism, and, in fact, diseases of the eyes in general. Proper glasses or other appropriate treatment will often lead to a rapid recovery but such is not always the case. Additional means of treatment should be, complete cessation from intellectual effort, change of air and appropriate medication.

Kuwschinski and Pastor: Temperature in Scarlet Fever. (*Jahrb. f. Kindhlkde.* B. XX. H. 4.)

The observations of the authors were made at the St. Petersburgh city barrack hospital, upon one hundred cases of scarlet fever. In most of the cases the primary fever declined in a period of from six to ten days. Then came a period of three to eighteen days in which there was no fever. After this a second elevation of temperature lasting from one to five days, and then lysis until the normal was reached. In some cases there was yet a third elevation of temperature from the thirty-fourth to the thirty-sixth day. With these elevations of temperature there were certain pathological changes, viz., swelling of the cervical glands, nephritis, endocarditis, diffuse angina, or even a secondary exanthema with subsequent desquamation. In only a very few cases in which these secondary elevations of temperature occurred was there an absence of some or other of these pathological changes. The secondary fever with the accompanying changes seem to indicate that the poison of the disease is not entirely exhausted during a single attack.

Moncorvo: Dilatation of the Stomach in Children. (*Rev. mens. des. Mal. de l'E, Nov. 1883.*)

Nine cases of this affection are reported by the author between the ages of two and thirteen years. The cases were all well authenticated, careful physical examination having been made. The condition was associated in all cases with a chronic gastritis, which was due to improper alimentation. Most of them presented a history of hereditary syphilis, and in one there was a precedent history of pulmonary tuberculosis. The treatment varied between phosphate of lime, bicarbonate of soda, bitter tincture of Baumé, and faradisation applied to the epigastric region. The latter means is reported to have produced excellent results. In two cases resort was had to washing out the stomach, with satisfactory results.

List of Subjects Proposed for Communications or Discussions in the Section of Pediatrics at the International Congress of the Medical Sciences, to be held at Copenhagen, August 10–16, 1884. (*Rev. mens. des. Mal. de l'E, Nov., 1883.*)

1. The function of marine stations in pediatrics.
2. The normal increase in weight among children, after early infancy.
3. The results of prophylactic treatment in ophthalmoblenorrhea among the newly-born.
4. What antiseptic method should be preferred in the surgical treatment of children.
5. On the importance of the pediatric policlinic for the propagation of hygienic notions among the people.
6. Nephritis among children, especially in the first years of life.
7. Tubercular meningitis in early infancy.
8. On the nature of the so-called acute rachitis.
9. On intestinal invagination in children, and the apparent difference of its frequency in different countries.
10. The treatment of acute articular rheumatism in children by means of salicylic acid.
11. Does croup constitute a category which is well defined clinically.

H. Hirschsprung, *Prest.*
Wichmar, *Sec.*

Dr. Charles F. Stillman, of New York, will deliver a Clinical Lecture on "Backward Traction in the Treatment of Caries of the Spine," before the District Medical Society of the County of Hudson, March 4th.

Abstracts

Cerebro-Spinal Fever.—Dr. J. Lewis Smith (*N. Y. Med. Record, Nov. 24, Dec. 1, 3, 15, 22.*) Etiology. Leyden and E. Gandier think they have discovered the micrococcus which causes the disease, but proof is wanting that this germ bears a causative relation to it.

It does not depend upon any particular kind of food, as it occurs in localities where the diet is dissimilar. Medin thinks that the materies morbi resides in the air and enters the system through the lymph spaces of the nasal mucous membrane, which according to Key and Retzius, communicate with the air on the one hand and the subarachnoid-space at the base of the brain on the other.

The greater number of epidemics occur in the winter, because over-crowding and poor ventilation are then more frequent.

The predisposing causes are anti-hygenic and unsanitary condition. It is probably very feebly contagious. The exciting causes are overwork, lack of sleep, prolonged abstinence from food followed by overeating, indigestible and improper food. In children, worry over studies, chagrin at being reprimanded or punished. Bodily fatigue with mental depression or excitement. Males are attacked more frequently than females, but the difference is not such as to attribute to the male sex a causative relation.

The liability of attack is greatest between the ages of of three and five. After ten the danger diminishes. Symptoms: The disease usually begins between midday and midnight. Generally there are not many premonitions, the disease beginning with violent headache, vomiting and a slight chill. In children clonic convulsions takes the place of the chill. Stupor or coma follows. If patient can be aroused complaint is made of pains in the trunk or extremities.

The pupils are dilated, and either do not respond to light or only slightly. Strabismus may occur early. The pain in the head is very sharp and lancinating; it is less pronounced at the end of the second week. The vomiting may cease in a few hours or not for several daya. With the chill the pulse is more or less accelerated according to the severity of the former. The respirations are proportionately faster than the pulse, perhaps due to tonic contraction of the abdominal muscles. The temperature is always above normal, although the surface may not indicate it. Temperatures of $107\frac{2}{5}^{\circ}$ Fahr. and 110° Fahr. (Wunderlich) have been observed toward the end of severe and fatal cases.

The clonic convulsions may not occur until the second week, and are then, with other symptoms, indicative of a recrudesence of the disease.

Tonic contractions of the cervico-occipital muscles and back begin in all typical cases from the first to the third day—to a less degree in those of the abdomen and lower extremities.

Paralysis of groups of muscles, usually of the lower extremity, may occur early. The muscles of deglutition may be involved, thus interfering with nutrition. The tache cérébale can be produced. Small ecchymoses appear. Perspiration is common. Hyperaesthesia is generally present.

The tongue does not present any unusual appearance. Appetite is lost; emaciation and weakness follow.

Thirst and constipation are common, but retraction of the abdomen results only from the continued emaciation. Diarrhœa, if it occurs, is a complication. The sight of *one* eye may be completely destroyed by inflammatory changes.

The hearing may be entirely lost, and not regained, as the result of otitis media. It is the rule for *both* ears to be thus affected.

Urine.—Occasionally a small quantity of albumen.

Complications.—The most frequent and fatal is croupous pneumonia, arthritic rheumatism, not very often.

During the prevalence of cerebro-spinal fever some cases are very mild, recovering completely at the end of a week; others never take to the bed, but do not recover until the period for convalescence is reached.

Nature.—A constitutional disease with meningitis as a local manifestation. It ordinarily occurs as an epidemic, but in certain large cities it is endemic.

Anatomical characters.—The blood is dark and unusually fluid, with some dark clots, the meninges of the cord and brain are hyperemic, with exudation of serous, fibrinous and purulent material. The brain is softened; ecchymoses are present. The ventriclers contain inflammatory fluid. Constant or uniform lesions do not occur elsewhere.

Prognosis.—The more severe and intense the outset of the disease, the less favorable for life. The first week is the time of greatest danger. If life is prolonged to the end of the second week, recovery is probable. Under five and over thirty years the prognosis is less favorable.

Diagnosis.—From scarlet fever and meningitis. The severe form does not leave much room for doubt.

Treatment.—Prophylactic. During the presence of an epidemic, avoidance of anti-hygienic and unsanitary conditions, fatigue, overwork, mental excitement. Plain, wholesome diet, sufficient sleep, regular life.

Curative.—Ice-cap to head and neck. For convulsions, hot mustard foot bath. Bromides in large and frequent doses. Ergot. For headache and restlessness, opium and chloral. In the later stages, Iodide of Potash.

Food should be given systematically, with stimulants, if necessary. Enemata if unable to swallow.

The room should be darkened, well ventilated and quiet. A favorable result depends very much upon good nursing.

JOHN VAN VORST, JR., M. D.

Congenital Dislocation of the Hip.—Mr. G. Colwell recently presented a number of cases of this deformity to the Royal Medical and Chirurgical Society. *(Brit. Med. Journal, Dec. 1.)* He states, it is more common in girls than boys, the proportion of his cases being twenty-eight to eight. It is astonishing how well the deformity is compensated for. He rejects the theory that they are produced during delivery and that they are due to breech presentation. It is an arrest in the development of the acetabulum, this being abnormally shallow. There is no abnormality in the femur.

Mr. William Adams, in the course of the discussion, said Dr. J. M. Carnochan, of New York, had been the first to write upon the subject, and had brought it to the notice of English surgeons while in London. Mr. Adams had seen forty or fifty cases, and thought but little difference in regard to sex existed. It was about as often double as single. It was not strictly a dislocation. It depended on malformation of the acetabulum, which allowed the femur to move when it liked. He had nothing to suggest as to the cause of the malformation. By way of treatment the most that could be done was to prevent the production of secondary deformities. He insisted on the recumbent position as much as possible and the use of gymnastics in this position. Operative interferference was useless.

Mr. A. E. Barker said he had examined the specimens in the *Musée Dupuytren.* These showed arrest in the acetabular development. The ligamentum teres was sometimes absent, in others it was stretched to the length of two and a half inches.

The President, John Marshall, suggested that the absence of the ligamentum teres might be the original malformation and the flattening of the acetabulum the consequence. L. EMMETT HOLT, M. D.

The Clinical Features of Typhus in Children.—Henry Tompkins, M. D., in the (*Brit. Med. Jour., of Dec. 15,*) calls attention to the variations in the type of this disease in early life. Of the 164 cases observed during the past two years 17 were in children under ten years. In these the initial symptoms were less pronounced, the rigors being often entirely absent or unnoticed. Severe headache was usually the only thing complained of. This was accompanied by a temperature rise seldom reaching a higher point than 103°F. The mental symptoms showed a marked variation from those of the adult. After three or four days the patient become exceedingly torpid and lethargic, often lying for hours in a dull, heavy sleep, as if under the influence of some narcotic. They are roused with difficulty. This lasts from four to six days without much real or active delirium. The temperature meanwhile generally falls, in many cases gradually, in more, rapidly, so that by the end of the week from the onset it will have become nearly normal. From this time they begin to brighten up and go on to a rapid convalescence. The steady decline in the temperature often takes place from the first day of the disease.

The rash is variable in its occurrence and not at all characteristic. In at least half the cases it was difficult to define any true rash. A dirty mottling of the skin is frequently all, and is seen on the face as well as anywhere, is accompanied by a flushed look and lasts only three or four days.

The prognosis is most favorable. Of the seventeen cases all recovered. Murchison gives the mortality under ten years as 35 per cent. and under five years, 6 per cent. Lebert put it at 2.7 per cent.

The author calls attention to the great difficulty in diagnosis when the epidemic begins among children, particularly in institutions. L. EMMETT HOLT, M. D.

Mumps with Metastatic Orchitis and Meningitis.—Wm. H. Walter, M. R. C. S., *(Brit. Med. Jour. Dec. 22)* reports the following case in a boy of fourteen: He had been ailing for a week with "a bad cold and sore throat," it was stated. He was found unconscious, with contracted pupils, temp. 105.5°, rapid, feeble pulse. The history given pointed to mumps, though the parotid glands were not swollen. A day or two before a sister had been seen with a pain and soreness about the jaws, and a little later a case of undoubted mumps occurred in the same family. These circumstances sufficiently establish the fact that the primary affection in this case was mumps. The high temperature lasted two or three days, but the cerebral symptoms of delirium, coma, &c., for nearly a week. He made a slow recovery. Attention is called to the fact of the great infrequency of meningitis as a metastasis, and to the combination of this with orchitis. This combination, the writer believes, has not been before recorded.

L. EMMETT HOLT, M. D.

Testis in Perineo.—Mr. Victor Horsely publishes a case of this somewhat rare condition, which was successfully operated on by Mr. Marshall in University College Hospital *(Med. Times and Gazette, Dec. 1).* The displacement was believed not to be congenital in this case, but was referred to an injury received when twelve years old. The operation consisted in liberating the organ from its adhesions, and transferring it to the scrotum, to which it was attached at the lower part by a loop of cat-gut. The operation was successful, though the testis remained somewhat tender afterwards. He has collected twenty-nine cases, from either congenital malposition or dislocation. Of seventeen, the left was affected eight times and the right nine times. Operation until the introduction of antiseptics has not been very successful. A full bibliography is appended.

L. EMMETT HOLT, M. D.

The Treatment of Spinal Caries.—Noble Smith, F. R. C. S. reports eighteen cases of this disease in the (*Brit. Med. Jour., Dec. 15.*) He concludes by expressing great appreciation of the earnestness and ingenuity displayed by Dr. Sayre in perfecting this appratus. The principle of restricting the movements of the spine has saved many lives. The advantages, however, have been overated. He recommends in using the plaster dressing a modification, leaving the front and sides of the thorax free and carrying up the casing behind to a line with the shoulders, strengthening it by metal strips and drawing the arms back by shoulder straps. The ideal apparatus, however, according to his view, is one which fixes the spine completely, without interfering with thoracic respiration and which can be adopted and rearranged by the surgeon himself as often as necessary. L. EMMETT HOTT, M. D.

The Treatment of the Premaxillary Bone in Hare-Lip.—Mr. Francis Mason exhibited to the Medical Soc. of London in November *(Brit. Med. Jour., Dec. 1)* a boy of seventeen who had been operated on for double hare-lip when three months old. The intermaxillary bone had been pushed back at the time. It was now movably wedged diagonally in the cleft of the palate, and this prevented the gradual approximation of the two superior maxillae. Only two incisor teeth projected from the bony mass, which was exceptional. He thought it would be found necessary to remove the bone in this case before attempting to close the fissured palate. He had long been in favor of removal of the intermaxillary bone.

Sir. Jos. Foyrer questioned the propriety of this, as a more contracted jaw would result. Mr. Rick agreed with this view. He was in the habit of leaving a tongue of skin attached to the bone and depressing the two together, to avoid the flattening of the tip of the nose. He thought by preserving and getting the bone to unite to the two parts of the superior maxilla a firmer arch was obtained, and false teeth could be easily substituted, if necessary. L. EMMETT HOLT, M. D.

The Paraplegia of Pott's Disease.—In a recent discussion upon this subject in the Liverpool Medical Institution (*Brit. Med. Jour., Dec. 15,*) Dr. Glynn said there had been great difference of opinion regarding the pathology of this complication. Formerly it was regarded as due to direct pressure, recently to the thickening of the membranes. Experiment showed that slight pressure upon the cord at any part produced loss of motion but not loss of sensation below it. The rapid recovery which often followed the application of the plaster-of-Paris jacket—

these cases showed that the paraplegia must have been due in a great measure to direct pressure.

L. EMMETT HOLT, M, D.

Erysipelas and Vaccination.—*(Brit. Med. Journal, Dec. 1, 1883.)* An inquest recently held in the case of a child who had died at Great Cornard from erysipelas after vaccination brings out the following facts. Two cases died from the disease. One, however, did not show any signs of erysipelas until it had attended at the vaccine station and lymph had been taken from it. With this lymph two others were vaccinated; both had erysipelas and one died. [This late appearance of erysipelas after vaccination is a fact too often overlooked, or at least not sufficiently appreciated. Its possibility seems to demand that the old custom of vaccinating from arm to arm should never be practiced.] L. EMMETT HOLT, M. D.

Swallowing a Watch-Chain —Dr. Munroe reported to the London Med. Society (*Brit. Med. Jour., Dec. 15,*) the case of a child 15 months old who had swallowed a piece of vulcanite watch chain three inches long with a hook attached. Some dyspnœa followed, and an unsuccesful attempt was made to withdraw the chain. It was then pushed into the stomach and was passed twenty hours later from the bowel. Considerable swelling of the larynx and a croupy cough followed. The chain was not eroded.

L. EMMETT HOLT, M. D.

Drainage and Diphtheria.—*(Brit. Med. Jour., Dec. 1,)* A recent outbreak of this disease occurred in Canterbury. Investigation showed the well water to be extensively contaminated with sewer gas in every instance. In one, six cases occurred in the same family. In addition to polluted drinking water, there was found here a hole in a drain running under the parlor, allowing sewer gas to enter the living room of the family. All the cases which had been reported could be traced to local causes

L. EMMETT HOLT, M. D.

Dr. S. Lilienthal (*Hahnemannian Monthly, Jan.*) reports two cases post. diphtheritic cardiac paralysis. One, a child, of seven years, was first visited early in the afternoon and found to be suffering from a croupy cough, worse during inspiration, expiration easy. He had been sick for some days but had not been confined to the house. He was pale and had no fever. At 9 P. M. sleeping quietly, breathing easier. At 2 A. M. still easy. Half an hour later found dead. J. B. MCMAHON.

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Original Communications.

TREATMENT OF CONGENITAL CEPHALEMATOMA BY ASPIRATION.

BY PINKNEY FRENCH, M. D.,

Mexico, Mo.

My purpose in writing this article is to direct particular attention to the use of the aspirator in the treatment of cephalematoma in the new-born. In making a short review of an article upon this trouble from the pen of Dr. C. W. Earle of Chicago, Dr. Van Vorst, Jr. (Archives of Pediatrics, January, 1884), concludes with the following: "Treatment—Protection from injury; mild anodyne lotions; if it produces pain or irritation, open antiseptically." Cephalematoma is comparatively a rare disease, and it falls to the lot of no one surgeon to see a great many cases. This alone should justify me in adding my mite in the management of this not by any means trivial affection.

There are two varieties of cephalematoma. The difference in the pathology, symptomatology, etc., of the two varieties is clearly shown by the comparison given below :

SUB-APONEUROTIC FORM.	**SUB-PERICRANIAL FORM.**
1.—Of common occurrence.	1.—Extremely rare.
2.—Not confined to one bone, but swelling occasionally spreads over more than one.	2.—Always confined to one bone.
3.—Tumor usually of large size.	3.—Tumor of small size; rarely larger than a walnut.
4.—Scalp over the swelling of a dark red or violet color.	4.—No discoloration of the scalp.
5.—Sometimes passes beyond a suture and fontanelle.	5.—Never intrudes upon a suture or a fontanelle.
6.—Invariably seated upon that portion of the head which first presents itself at the outlet of the pelvis during labor.	6.—Most frequently seated upon parietal bones, commonly the right, occasionally the frontal, more rarely the occipital.
7.—Round oval tumefaction.	7.—Usually kidney-shaped.
8.—The effusion is poured out between the aponeurotic structures of the scalp and the pericranium.	8.—The effusion is poured out between the pericranium and the skull bone.
9.—Absorption takes place rapidly, and the swelling quickly disappears, only lasting a few days.	9.—Absorption slow, recovery tedious and protracted, lasts usually for weeks or months.
10.—Tumor soft, fluctuating, with an ill-defined margin.	10.—Tumor tense, hard, fluctuating, and margin well-defined.
11.—Swelling slightly diminished in size by pressure.	11.—No diminution in size by pressure.
12.—Tumor has a smooth base.	12.—A ridge rises abruptly around the base of the tumor in all mature cases.
13.—Usually caused by the pressure to which the head is subjected during labor or by the bruising of obstetric instruments, and more rarely by a constitutional hemorrhagic tendency, and still more rarely is it due to anomalies of development of the blood vessels.	13.—Generally due to anomalies of development of the blood vessels, and to a peculiar constitutional hemorrhagic tendency, and rarely due to instrumental delivery or to contusion of any kind.
14.—The extravisation which gives rise to the tumor in a great majority of cases commences during birth and gradually increases thereafter.	14.—The particular condition of things necessary for its production usually exists before birth, and is called into activity after birth by the establishment of respiration and the increased impetus of the circulation.
15.—Usually single; rarely double.	15.—Commonly single; double in about one-seventh of the cases.
16.—Demands scarcely any treatment.	16.—Surgical aid is imperatively demanded.

The pathology of the two varieties is identical. The tumor in each case is due to a circumscribed effusion of blood—in the one case beneath the pericranium and upon the surface of the skull, and in the other beneath the aponeurotic structures of the scalp and upon the surface of the pericranium.

The effusion of blood is consequent upon a rupture or arrrest of development of the blood vessels which pass from the pericranium to the skull in the one case, and from the aponeurosis to the pericranium in the other. The amount of blood effused varies in different cases from a few drops to several ounces. Any treatment calculated to close the mouths of the ruptured vessels, and thereby arrest the effusion, would meet the indications. Nature coagulates the effused blood, thereby forming a compress by which the vessels are occluded. The absorption and removal of this coagulum is a tedious and dangerous process. We remove the fluid with the aspirator; apply compresses, secured by adhesive strips, so adjusted as to make equable pressure upon the whole seat of the tumor, and by this means secure the control of the hemorrhage temporarily, while by the adhesions which take place we control it permanently. As attending or associate surgeon I have seen six cases of cephalematoma, upon three of which we used the aspirator—one on the sixth, one on the third, and one on the fourth day after birth. In all the cure was complete in six days. My first operation was performed on the 5th of February, 1879, and an account of the same was published in the June issue for that year of the St. Louis Medical and Surgical Journal. My second operation was performed on June 26th, 1879. In the October number of the St. Louis Medical Journal for the same year, there appeared an article upon cephalematoma, from the pen of Dr. H. M. Smith, of Vincennes, Indiana. In this we found the statement that Dr. Gassner's report of the use of the aspirators in cephalematoma was published in 1875, in "Schmidt's Jahrbucher," and was copied into the "Cincinnati Clinic," January 8th, 1876. In the other cases which came under my observation, a host of authorities were followed in letting nature take its course, and in consequence, in one case the tumor was still perceptible after two years, although free from pain or other trouble; and in the other two, nature failed to remove the effused fluid, and suppuration having threatened, an incision was made extending the whole length and depth of the tumor, the clots turned out, and compresses used until firm union between the parts took place. In waiting for nature to remove the fluid by absorption we lost the opportunity to use the aspirator, for the firm coagulation of the fluid made its use impossible. Hence, to avoid the dangers incident to suppuration, abscess, etc., the knife was resorted to.

There is good reason for believing that the subaponeurotic form of cephalematoma is more amenable to treatment by discutient lotions and to the efforts of nature than the subpericranial, but when the presence of either of these tumors has been made out, its prompt removal by evacuation with the aspirator, subject to the conditions heretofore named, is the only sound practice. The longer the blood is left in the cavity the thicker and denser it will become. Hence every day lessens the probabilities of a natural cure by absorption, and consequently the danger of complications, such as suppuration, etc., and of a protracted recovery, is very greatly increased. Since the use of the aspirator is unattended with injurious effects, there should be no hesitation on the part of the surgeon to resort to it, and the sooner the operation is performed the better. To interfere before the tumor becomes tense, the operation might prove futile and necessitate a repetition, but to wait longer than this is simply to add to the difficulties of the case and to postpone and protract recovery. I maintain that, as a safeguard against the occurrence of the dangers that occasionally arise in these cases, when nature fails, neglects or refuses to perform a cure, the use of the aspirator in the incipiency of the case is always justifiable, and, by incipiency, I mean sometime during the first week after the appearance of the tumor. Must we sit idly by and wait for nature to accomplish a work which under favorable circumstances, would require weeks, and under unfavorable circumstances would lead to great complications and dangers, when by the performance of a very safe operation we could shorten her work tenfold, and avoid the dangers incident to a protracted and tedious recovery? No such a proceeding would be scientifically reasonable and scarcely justifiable. Would we refuse to amputate a gangrenous limb simply because we were aware that nature, under the most favorable circumstances and surroundings, could and would spontaneously amputate the member? By no means. In the physiological process of dentition, and nothing could be more natural, we observe the temporary teeth being displaced to make room for the permanent teeth. We know that nature is equal to the occasion, and will eventually accomplish her task, and yet do we wait for the teeth to drop spontaneously from the mouth? No, sir; we abridge the process by removing them as soon as they become loosened, and thus do we prevent the danger of suffocation by a tooth being inhaled into the trachea during sleep or a paroxysm of coughing, and also increase the beauty of the teeth by preventing irregularity in growth. These dangers may appear trivial, and yet it surely reflects some credit upon those who take the precautions to avoid them. The little boy rambling barefooted about the streets, "bumps his toe" against the pavement, and the nail is almost torn from its connections, just left sufficiently attached to keep up vitality for awhile, and yet we know that nature will finally complete the work which accident begun, and replace the whole by a new nail. What do we do in a simple case of this kind? Do we not remove the nail at once? and this not only hastens recovery, but prevents to the little fellow much pain and suffering. Every surgeon of any experience is sufficiently familiar with cases to know that successful natural efforts are not always to be expected, however, and when so, not always the best, and that surgical skill is often demanded to assist nature in a cure. No surgeon has any power to complete a process which nature so well commences, but he may, through the judicious exercise and application of his skill and knowledge, assist in completing the process. This alone is the great secret —the great philosophy of surgery—"*To know when and how*" to assist nature.

It may be considered a legitimate subject of inquiry: In what manner can surgeons assist nature? 1st. By mitigating intensity of pain and affording rest. 2d. By removing all conditions that prevent, retard, protract or interfere with perfect recovery. As a general proposition, many of the surgeon's duties are embraced within these two answers; and whenever he can comply with either of them without subjecting the patient to increased danger, it is certainly his bounden duty to do so. In the cases under consideration, instead of endeavoring to hasten recovery by promoting the removal of the effused fluid by the use of anodyne lotions, which have no power to hasten absorption, let us use the aspirator. Our results will be far more certain and our cases less tedious and unsatisfactory.

REMARKS ON CHOLERA INFANTUM.

BY JAMES CRAIG, M. D.,

Jersey City, N. J.

During the summer months the mortality among children until the completion of their first dentition, is alarming, and calls for the earnest attention of medical men.

The extreme heat and enervating character of our climate, tend to exhaust and induce a nervous condition of the system, and when attacking the digestive organs produce a specific diarrhœa, well named cholera infantum. Its course in some cases is very rapid, and in all dangerous, if not soon relieved. The watery evacuations produce a thickened condition of the blood, interfering with free circulation, causing passive congestion of the brain, and adding another danger, viz., compression from effusion of serum into the ventricles, producing convulsions, and in some cases coma and death.

Convulsions, also, are caused by reflex action from irritation of the stomach and bowels. In some cases the stools are very frequent, with an odor *sui generis*, which is almost pathognomonic of the disease; in other cases, there may be very few movements, but very large in quantity, and, when such is the case, may there not be a septic influence at work poisoning the blood, and overwhelming the system. Cleanliness should be rigidly observed, and the stools removed as soon as voided.

Vomiting (or the effort to do so), is a very distressing symptom, and demands prompt attention.

The treatment of cholera infantum varies very much, and depends upon the physician's ideas and experience. The indications are to prevent nausea and vomiting, support the strength, and check the diarrhœa. If nursing, no change in diet is made, but care should be taken not to nurse the child too often or too much at a time. If bottle-fed, the milk is stopped, and stale bread, soaked in hot water, with a little sugar and brandy added, or Robinson's prepared barley, or arrowroot, made with water, given in small quantities, answer a good purpose. Milk is also prohibited where the child is weaned, but is gradually resumed as it improves. Where the child is weak, one teaspoonful of brandy to six or seven of water, a teaspoonful of which is occasionally given. Where a more powerful stimulant is required, carbonate of ammonia, in one or two grain doses, mixed in syrup of acacia, is used according to the age of the child.

For the gastric and intestinal derangement, my favorite prescription is

℞.	Liq. Acidi Carbolici, 5 per cent.	ʒi
	Bismuthi Subcarb,	
	Pepsini sacch. āā	ʒi
	Aq. Cinnamomi,	℥iii
	Syr. Aurantii Cort.	ʒii

M. Sig.—A teaspoonful every two or three hours until relieved.

I also apply a spice plaster over the abdomen composed of the following:

Powdered cinnamon, cloves, nutmeg, ginger, allspice, of each ʒii Honey and glycerine of each, ʒvi. White of one egg.

M. And spread on cheese cloth or fine mosquito netting. It may remain on over the region of the stomach and bowels for hours or days without blistering—it merely reddens the skin, and is an excellent counter irritant. A bandage should be applied over it to keep it in place.

Change of air frequently brings about convalesence in a very short time. When that cannot be had, the next best thing is to take the child out daily for an hour or two at a time, early in the morning and late in the afternoon. While in the house the child should be kept in a well ventilated room, free from draughts.

INFANT DIET.

BY J. F. GOULD, M. D.,

Boston, Mass.

I have tried most of the prepared foods for infants; Mellin's I consider the best, but would not give a ten-cent piece for *all* of them to be used for food by the little ones. Some increase fat, some produce plumpness, and nearly all are more or less colicky in their action. In my experience they all fail in one respect, viz: they do not anticipate the wants of the child's system; *i. e.* a diet which will carry a child through dentition, and other diseases of early infancy.

"One Cow's Milk," so long talked about, is a vast improvement over the prepared foods in the market, but this does not make so good a diet for children as the milk from several cows. Farmers as a class are close calculators in regard to money matters, and they select cows which give milk in large quantity without regard to quality,—if it is to be sold as milk, or, if sold for cheese or butter, the cows are selected accordingly; hence by having milk from several cows, if we should get an excess of one of the above principles in one animal, it would be corrected by the deficiency of the same principle in another animal; therefore we get a standard milk by mixing several milks together.

My directions are as follows, viz: Take milk of a reliable milkman, either morning's or night's milk, but not the two mixed. Take two teaspoonsful of crushed barley, add to twelve teaspoonsful of water, boil one-half hour; strain and add salt and bread soda, of each a piece equal to a small pea; one-half teaspoonful each of sugar of milk and good brown sugar; mix and add this to six tablespoonsful of milk from SEVERAL cows. Have two nursing bottles, with black rubber nipples and tubes, thoroughly cleansed, and the one not in use placed in clean, cold water. A nipple should be used because it is more natural, and because the action of the muscles and glands of the mouth commence the digestive process for liquids as the same parts do, plus teeth, for solid food, and must be more physiological than feeding by a spoon.

This is more apt to be too rich than too poor for infants from birth to two months of age. Each child must be made a special study. If the bowels are relaxed, use more barley; if constipated, add more water. If it vomits a solid curd, use more of the sugar of milk; if the discharges are sour, use more soda, or, what is better, one-half teaspoonful of Phillips' milk of magnesia. It will require four or five days to see if the above agrees with the infant. Barley is selected because it contains less starch, which is troublesome for young infants to digest; sugar of milk is used, because human milk contains more than the cow's, and tends to break up the cheese principle which cows' milk has over or in greater amount than in breast milk. If a child vomits its food, it should throw up the milk as a *soft* curd, *not* as a piece of cheese. Sugar of milk tends to this, *i. e.*, to break up the curd. After two months of age the milk is increased one tablespoonful, and one teaspoonful of barley or crushed wheat each month. If care is used the child, in a few weeks, will be of a pinkish color, muscles will be hard, features *rounded*, but not *redundant.* In hot weather the food will require making once or twice daily. The little ones seem to be contented and grow solid. Have used this diet in cholera infantum where mother's milk would be instantly rejected and this be retained. Have had excellent results from it when the child had not been applied to the breast at all. It needs care in its preparation and in its administration, but it will do as well in cities as the majority of those who use breast milk. Mothers or nurses have many causes of excitement in cities, such as fire, murders, accidents, fright, sexual excitement and diseases, mental and physical perturbations, etc., which the animal is free from.

If the feeding of infants has to be artificial, let the process be as natural as possible. Let the child, while feeding from the bottle, be held the same as it would be if nursing naturally. The warmth of the nurse will aid the digestion of the babe if this position is assumed.

Clinical Lectures.

RACHITIS.

A CLINICAL LECTURE DELIVERED AT THE GOOD SAMARITAN HOSPITAL, CINCINNATI, OHIO.

BY F. FORCHHEIMER, M. D.

GENTLEMEN.—The case that I bring before you to-day is of special importance to you, as children's physicians. It is of importance both in regard to the disease itself, and also because of the fact that this disease frequently forms a predisposing cause for other maladies. These may become dangerous to the patient's life, or so impair his nutrition that he is left damaged for a long time—even for life. When you consider how complicated a subject is the etiology of disease, you will agree with me in saying that we must be happy if we can clear up any one point in this direction. Having the etiological factor given, the problem of therapy always becomes so much easier to solve. Let us proceed to the examination of our case, and the diagnosis, I hope, will be clear to even the veriest tyro. The patient is a little boy, eighteen months old. He is of German parentage, lives in an overcrowded quarter of the city, and is brought to us because he does not walk. Upon questioning the mother we get the following history: She has two children, besides the one present; both are healthy. The family history is good. She has lived in this country for ten years, and married here; her husband also is German. Our patient was born a perfectly healthy and well nourished child, remaining so, as she says, all the time. Close questioning, however, reveals certain symptoms, usually overlooked, that are very important to us. The baby suffered very much from teething. This, as you have heard so frequently, is synonymous with diarrhœa in the minds of these mothers. It has also been constipated at times, so that it became necessary to give it a dose of oil occasionally. There were times when the baby was exceedingly fretful, cross and irritable; it would cry upon being touched, or lifted from its bed; but all this was also ascribed to teething. Did the baby sweat at all? Oh yes, at times so much that its little pillow became wet. The sweating seemed to be confined to the head principally. It has four teeth, and they came out about eight months ago. The child is still at the breast, but, upon being asked, the mother replies, with a certain amount of pride, that the baby will eat anything, and has done so since it was six months of age. You are, perhaps, aware of the fact that when a baby eats adult food at a very early period of life, it is looked at as a precocious phenomenon, treated with corresponding respect, *i. e.*, stuffed the more, and then the ailments that follow are ascribed to some mythical cause, such as teething, growing or worms. In this disease especially is this the case for as you hear, the baby's appetite has been remarkably good; indeed, as the mother says, the baby sometimes "will eat as much as I do," and then seem to be hungry afterwards. If we now turn to the examination of the patient, you see as follows: the child is fairly well nourished but flabby, the color of the skin is not of that roseate hue that makes the flesh of children so beautiful, neither are the outlines of its body so thoroughly rounded as they ought to be. Upon examining its head, you see that the hair is very much shorter upon the occiput than upon the rest of the head. By fretting and rolling its head it has evidently rubbed off the hair here; added to this comes the fact of its sweating whenever lying down, which has caused the hair to become macerated so that it comes off easier than in the normal condition. You find, furthermore, that the form of the head is somewhat peculiar; it is a square head, a tête carrêe as the French call it, to which there are four prominent points, the centers of ossification, upon the frontal and parietal bones. Here we have a thickening subsequent upon an inordinate deposit of bony substance, and the result is that their tubera become very much elevated, changing the whole form of the cranium. The anterior fontanelle, that ought to have been closed three months ago, is still widely open. You now run your fingers carefully over the occipital region, to see if you can find soft spots, the craniotabes of Elsässer, but you detect nothing. Indeed, this condition is very rare in this country, and when you find it it is not very perfectly developed. You examine the mouth and find the four teeth, two lower incisors and two upper incisors, that the mother has spoken of. The thorax reveals some very interesting changes. Its form first attracts your attention. Instead of being well-rounded it presents several angular deformities. You see, in the first place, that the sternum, as a whole, projects very much beyond the plane of the ribs; that to come to the ribs you must, as it were, go down a decline on either side. Next you observe that the costal cartilages, instead of running as a projection of the ribs, run at an angle with them, and where they join the ribs we find a decided enlargement. This condition alone, without the appearance of the head that we observed above, would be sufficient for our diagnosis. The misplacement of the sternum is a characteristic condition of rachitis or rickets, and is called chicken or pigeon breast, and the enlargement of the ribs at their junction with the cartilages is that condition that is known as the beaded or rosary appearance of the thorax. In addition, you will see that there is a flattened condition of the ribs, anterior to the axillary lines of the size of the palm of a hand. About the width of one hand below the nipple you discover a furrow passing around the thorax, the permanent expression of what you will see in diseases associated with dyspnea, known in pneumonia as the peripneumonic furrow. What does all this mean?

You are dealing with a case in which the principal lesion is, evidently, in the osseous system. This lesion consists in an irregular deposit of bony material, characterized by a peculiar process that can occur only in developing bone. The bones are changed, in that there is a diminution of salts and an increase in water, a deposit of osseous material that, at best, is spread over more space than normally. In this way these bones bend at one place and break at another. During the natural process of bone development you have one step following the other; here you may have a small island of completely formed bone, surrounded by cartilage that has hardly begun to proliferate. In this disease we have bone developing without the intervention of osteoblasts, directly from cartilage cells that have proliferated. Ossification going on so irregularly and fitfully, as you may well imagine, will produce bones that are but poor supports for the body. Their form is changed by any force that acts for a sufficient length of time—pressure, muscular traction, position, the manner of handling the patient. I well remember a case of congenital rickets in which the raising of the patient's arm by the physician caused a sub-periosteal fracture to take place. How do we, then, explain the deformities that we have seen to exist so far? The change in form in the head is due simply to the process of irregular development of bone. Sometimes the head is changed in other ways; it may be flattened on one side, the child having rested on this half of the head, or those soft spots that I have mentioned before may appear. These, by Elsässer, were ascribed to the pressure exerted upon the bones by the brain. In some cases of rickets we have peculiar deformities of the jaw and teeth, due, as Fleischmann claims, to muscular action. The alterations in the thorax are caused by muscular action and traction of the lungs upon the softened bones—the pigeon breast, the furrow below the nipples (diaphragm), the beaded appearance by the proliferation of cartilage cells, and the flattening at the sides of the thorax by the way the infant is lifted from its cradle. Most attendants upon children take them up by catching them on either side with their hands; when this is done to a rachitic child the traces are always left in the form of a depression that we have noticed in this case. If you examine the thoracic viscera, percussion reveals nothing; upon auscultation you hear coarse râles, dry and mucous, over both sides. There is, then, present a bronchitis, very common in rachitic children. These children are those that are said to "catch cold" easily; they cough nearly all the time, and this bronchial complication may be of very serious importance, as you know; the relation between a bronchitis and a catarrhal pneumonia being very near. You look at the spinal column, and you find that, in the upper dorsal region, there is a slight curvature to the right. Here again do we find various deformities, all ascribable to the same cause—the lack of support given to parts by these diseased bones. The abdomen of this patient presents a noteworthy sight. You are immediately struck by its prominence. It must be remembered that, in childhood, the proportions of the abdomen are not those of adult life; in children the abdomen always seems too high for the thorax, but in our patient even these limits are overstepped. The causes for this enlargement are many. Every case of rachitis has accompanying or preceding it, some disturbance in the alimentary tract. As a result of this disturbance, great quantities of gases are formed; these cause the intestines to become meteoristic, and they then distend the abdominal walls. If you percuss this abdomen you get tympanitic resonance, loud enough to be heard at the ends of the room. The walls of this abdomen are very tense, and quite resistant. This, however, is not the only condition that produces the enlarged abdomen. On account of the changes that have taken place in the horizontal diameters of the chest, the lungs are forced into the vertical diameter; the diaphragm, therefore, stands low, and the intestines, as well as the liver, are forced downward. But the bones of the pelvis also suffer from this disease. The wings of the ilea droop, they are placed more horizontally, and this, with the diminution of the distance between them and the diaphragm, causes the abdominal cavity to become smaller, crowding the intestines forward. If to all this there be added an anterior deformity in the spinal column, you can readily understand how much the intestines will be crowded out of their natural position. If you now examine the abdominal viscera, you find that both the liver, as well as the spleen, project beyond the free border of the ribs. I would warn you, however, not to look upon this as a positive evidence of enlargement of these organs. I do not believe, especially with some of the English authorities, that enlargement of these organs is essential to rachitis. If you have a deformed chest, with pushing down of the diaphragm, naturally the liver and spleen will be forced out of their place, and if you consider every liver or spleen that can be felt below the free border of the ribs as enlarged, you are constrained to say that in nearly every case of rachitis these organs are enlarged. There is nothing in the pathogenesis of rachitis that accounts for a swelling or other change in these organs. If the case is complicated by chronic intestinal disturbance, the spleen will in every instance become enlarged, or if there be other diseases accompanying rickets this may occur. But you will not look upon enlargement of these organs as at all essential to rachitis. Now, to come back to our case: if you examine the wrists or ankles, you will observe something that is quite peculiar. You see that there is a swelling at these places—so much so that their joints look as if they were double. As we judge of the position of a joint only by the prominent bone—usually one—the one nearest the body—so in rachitis, as we have all the epiphyses enlarged, we may readily imagine that there are two joints. This has given rise to a popular term for these patients—they are double jointed. But these are not the only deformities that may be observed as the result of rickets. Sub-periosteal fractures are very common in this disease, and the result is deformity, varying from a simple bowing of the legs to those enormous changes that we occasionally see. In the latter cases, the legs may be twisted around each other, so that walking becomes simply impossible; or the leg may be so much altered that the patient walks on a part of either the fibula or tibia, depending upon the direction the fracture has taken. As a result of the minor changes we may have talipes, valgus or varus; knock-knees are by no means uncommon. So you see that if a patient has all the changes that rachitis subject him to, he comes out a very badly deformed subject, indeed. Fortunately, but very few in this country suffer so much, and with proper treatment no case ought to become afflicted to such an extent. Of the complications there are three, especially, that deserve your attention. Hydrocephalus is associated with rachitis, very frequently. Sometimes these patients die from the chronic form. It is the rule, however, that with the closure of the sutures and fontanelles the effusion into the ventricles or arachnoid becomes absorbed. Laryngismus stridulus is another one of the dangers that your patient has to contend against. A child that is subject to these attacks is always in danger; since at any moment it may die in one of these seizures. You must warn the parents in this direction. The most fatal of all the complications to rachitic patients are catarrhal troubles; both of the intestines and the passages. The latter, in the form of catarrhal pneumonia, is probably the most common immediate cause of death for these patients. The prognosis quoad vitam, is good as a rule; the mortality of rachitic children can hardly be estimated, very few, if any, die from the disease itself; but the disease is to be looked upon as complicating others, and as leading to certain troubles, just mentioned, that make it a formidable enemy to infants and children. The comparative frequency of rickets, in this country and abroad, has not been expressed in figures, but we know that it is by no means so common as it is in Europe. Ritter states that thirty-one per cent. of all children, in Prague, are rachitic, and from personal observation I would say that the figure, if wrong at all, was too small both for Prague and Vienna. Here we see quite a large number of rachitic children, much larger than is usually considered to be the case. We naturally include all the cases that have any well-pronounced symptoms of rickets; the most marked cases do we see among the colored race. We further find that children of foreign parents suffer more than do those whose parents are born in this country. This, however, does not mean heredity; simply that their children are raised in the same manner, with the same superstitions and under the same circumstances as their parents have been. I do not believe in the heredity of rachitis, notwithstanding the beautiful statistics of Ritter. Our experience, in this country, is naturally more valuable than his, because we have not so great a number of rickety children, and can examine into this point more impartially, if you will, than he could. In regard to the diagnosis of this disease, I have nothing to add to what I have already given you. The only question is, whether we are to consider any single symptom as diagnostic; for instance, as Rehn does for delayed teething. Strictly speaking, this is impossible, and scientifically, we can not assume that a child has rachitis because it gets its first teeth very late. But it is well for the child if it falls into the hands of such a practitioner who is willing to watch, and if necessary, to treat it for so simple a deviation from the normal process of development. We are lamentably ignorant of the exact cause of the disease.

No one has, as yet, given us an adequate explanation, or one that has been thoroughly confirmed by subsequent observers, as to the processes going on in the body that produce rickets. Clinically, we know that bad hygienic conditions, or such that reduce the general health of the patient, cause this disease. Poor air, bad food, improper as to quantity and quality, are the principal factors in regard to hygiene. Any disease that produces either rapid, or, more favorably, slow reduction of the system, such as malaria, the acute fevers, syphilis, may leave the patient rachitic. As a result of this your treatment will be especially directed against any of these causes. You must know that, under certain conditions, rachitis is bound to develop, and, as a careful physician, you must immediately institute anti-rachitic treatment. In what does this consist? Regulate your patient's diet. Give milk and broth principally as food. Add salt to all the food you give to the patient. Regulate the patient's bowels. If you find that the child is constipated, you can frequently succeed in procuring stool every day by some change in diet. The same rules that I have given you in connection with the diet of a healthy infant also hold good for a rachitic. If diarrhœa be present, treat it as you would any other catarrhal affection of the bowels, except in that you will use those remedies that I now recommend to you. Every patient with rickets ought to receive a tepid or cool salt water bath every day. The bath ought to be made by taking a handful of ordinary fish salt and adding this to the water. When the child comes out it is to be rubbed thoroughly with a towel, rough if the child be old enough. I have not had the same experience as Baginsky, who states that if these baths be given more frequently than twice or three times a week the patients lose weight. I rely upon these baths and upon fresh air as the main agents for curing this disease. Have the patient sent out in the open air every day. You can protect them against the inclemencies of the weather, but give them fresh air. Here you must, however, take precautions, in that you may cause deformities, for I once heard a celebrated German clinician state that whoever allows a rachitic child to come out of his treatment with any marked deformity ought to be criminally prosecuted. In order to prevent deformity you will teach the child's attendants how to handle the patient; you will explain to them how to lift the child—one hand under the nape of the neck, and the other under the buttocks. If there is any danger of deformity of the spine, you must send the child out, resting upon a pillow, in a perambulator or upon the arms of a nurse. Do not permit any attempts at walking, until you are positive that the disease has run its course in the legs. The specific remedies that have been recommended against rickets are, especially, cod liver oil and lime water. My indications for cod liver oil are as follows: if a child is very thin, and over six months of age, you can begin carefully with small doses. Never give this remedy until you are positive that your patient has digestive organs that will bear the remedy. The oil sometimes acts very well, not only as to causing an increase in the child's weight, but also in regulating the bowels. The great objections to this remedy are, that it produces dyspepsia or intestinal catarrhs. You must not, however, think that because a child increases in weight it is improving; fat children frequently suffer with rickets. Neither must you prescribe cod liver oil in every case of rickets, because it was once looked upon as a specific. The lime water also, in some cases, acts very well, but I believe, with Baginsky, that its action is due, not to any specific properties, but simply because of its effect upon the milk. You will find it necessary in some cases to give iron preparations; and, in children over one year of age, when there is an appreciable tumor of the spleen, very small doses of arsenic are not only well borne, but seem to act beneficially both upon digestion and blood-making. Of the complications, it is necessary to speak, in detail, only of one—laryngospasmus or laryngismus stridulus. Against this much-to-be-dreaded addition you may use the bromides, chloral, or, if necessary, hypodermic injections of morphia. The parents and attendants are to be impressed with the physical and psychical treatment of their children; they must be told that a scolding or fright, or anything that may act suddenly upon the child, can produce an attack whose termination is always a matter of doubt. All other complications will be treated as indications may call for; never, however, neglect the anti-rachitic measures. The sequellæ of rickets belong to the domain of surgery, so that they require no discussion here. You take away from this lesson of to-day, then, not only a description of this comparatively frequent disease, but I hope I have been able to impress upon your minds the importance of detecting it, as an underlying cause for other diseases, the treatment of which becomes very unsatisfactory, unless you appreciate the old aphorism, "causa remota, tollitur effectus."

CROUPOUS-PNEUMONIA.—ACUTE PLEURISY.

A CLINICAL LECTURE DELIVERED AT THE CHILDREN'S HOSPITAL, PHILADELPHIA.

BY LOUIS STARR, M. D.,

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GENTLEMEN.—The first case that I shall show you to-day is one of croupous-pneumonia; this is not a rare disease in children, though it is less frequently met with than the catarrhal form. This child is one year old; he was taken ill on Friday, five days ago, the only noticeable symptom being fever. When he was brought to the hospital on Saturday it was at once evident that he was very ill. There was a peculiar, anxious expression of the face, expansion of nostrils with each inspiration, and a frequent expiratory hack, or partially suppressed cough, and rapid breathing. His skin was hot and dry to the touch, the tongue was lightly coated, the appetite moderately good, and the bowels constipated. On physical examination, the first sign observed was increased resistance to the finger on percussing over the lower third of the left lung; there was also modified resonance, falling considerably short of flatness. On auscultation, it was noticed that the breathing was tubular or bronchial, and on very full inspiration—as after crying or coughing—a few crepitant râles were heard.

Since Saturday the patient has evidently been growing worse; the fever is greater, there is increased cough, sometimes attended with vomiting of mucus, and occasionally, when very violent, with expulsion of the fæces. He is weaker than at the last visit, but the appetite is not impaired. On looking at him to-day, the first thing you observe is, that without being at all wasted, the child has a peculiar, anxious expression, and that the skin of the face is uniformly pale, with a tendency to circumscribed flushes on the cheeks. You see that the respirations are increased in number, that with each inspiration there is movement of the alæ nasi, and that the expirations are often attended with a sound, somewhat between a complaint and the noise made in trying to clear the throat. The temperature is about 104°.

On inspecting the naked thorax, no difference in the amount of expansion of the two sides can be detected. On the left side, posteriorly, percussion is perfectly normal, from the apex down to a short distance below the angle of the scapula, a point nearly corresponding with the upper margin of the lower lobe of the lung. Below this there is increased resistance to the finger, and on comparing the two sides there is found to be a diminished volume of resonance or incomplete dullness. If we were to take time carefully to map out this dullness, we should find that it extends over the lateral and anterior surfaces of the left chest, its upper border gradually passing in an oblique line, from the point indicated behind, downward until it touches the costal border, a short distance below the nipple, thus corresponding with the line of the upper edge of the lower lobe. On auscultation, tubular respiration is heard over the area of dullness. The characters indicative of tubular respiration are a blowing, high-pitched inspiratory sound, succeeded by an interval, which is followed in turn by a prolonged, high-pitched, expiratory sound—the sound of expiration being considerably longer than that of inspiration, which is, as you know, quite the reverse of the normal vesicular murmur. To-day we do not hear the crepitant râles, noted at the former examination. This is because the disease is more advanced, being now in the second period, or the stage of consolidation.

Let us now consider for a moment some of the more important points in the clinical history of croupous-pneumonia in children. In infants and in young children before the age of the second dentition, this disease may begin in several ways. It may be ushered in with prolonged and obstinate vomiting, during which all the food taken is expelled; or it may be preceded by a convulsion or a series of convulsions; and sometimes, as in the child before us, it is entirely latent in its development. You will rarely find in young children, the rigors and chills which attend the development of the disease in adults.

The affection, as you well know, is divided into three stages: (1) the stage of congestion; (2) the stage of consolidation; and (3) the stage of resolution. The first stage directly follows the vomiting or convulsions. The temperature rapidly rises, the skin becoming hot and dry, the pulse and respiration are much increased in frequency, the tongue is heavily coated, the appetite impaired, the bowels usually constipated and the child is languid, not noticing the play going on around it, and being unaffected by the trifles which ordinarily disturb it, and cause crying. If you examine the chest during this stage, the physical signs will be found to be rather indefinite. There may be slight dullness over the portions affected, and you will generally notice an alteration in the quality of the respiratory murmur, the vesicular character being less marked, and supplanted by *harsh* breathing; in some instances crepitant râles.

The stage of congestion rapidly passes into that of exudation or consolidation, and usually in the course of twenty-four hours the symptoms and physical signs of the latter are well developed. The tongue is more heavily coated, the appetite almost lost, and the bowels still confined. The cheeks are scarlet, the lips parched, red, and often covered with herpetic vesicles, and the skin is dry and hot, the axillary temperature commonly reaching 104° F. in the evening, and not unfrequently running as high as 106°. The pulse becomes very frequent, ranging from 140 to 160, or even 180 per minute. The respiration is rapid, 40 to 60 movements to the minute being not unusual; each inspiration is attended by distention of the alæ nasi, but there is no *dyspnea* in the true sense of the word. The rapid respiration is due partly to the crippling of a portion of the lung and partly to thoracic pain. Cough, present during the first stage, becomes more frequent and annoying in the second. It is dry, partially suppressed on account of pain, and is often limited to the peculiar expiratory hack already described.

The languor is more marked and prostration greater. The urine is scanty, loaded with lithates, deficient in chloride of sodium, and often slightly albuminous.

On percussion there is dullness over the affected lobe, with great increase of resistance to the finger. Auscultation at first may elicit crepitant râles, but as soon as consolidation is complete bronchial breathing alone is heard, and the voice or cry of the child is conveyed with unnatural distinctness to the ear. The change from the harsh respiratory murmur of congestion to the bronchial breathing of consolidation is first noticed in the expiratory element, which becomes loud, high-pitched and prolonged.

These symptoms and signs continue until the seventh or ninth day, when, in favorable cases, and if only a single lobe be affected, resolution, the third stage, sets in. The commencement of resolution is indicated by a sudden and marked fall of the temperature, or *lysis.* I have in several instances seen the temperature stand at 106° on the evening of the eighth day and 100° on the morning of the ninth, and a fall of 3° is not uncommon at the time of crysis; sometimes, too, the temperature at this period falls within a few hours to a point below the normal—for example, from 104° to 97.5°. With the decline in temperature, there is often considerable sweating, and always a rapid improvement in the general symptoms. The physical signs, however, undergo little or no change until twenty-four hours have passed; then the dullness begins to diminish, fine, sub-crepitant râles (redux crepitation) are heard over the affected lobe, and the bronchial breathing and bronchophony grow less marked. The complete return of percussion resonance and the vesicular murmur are often delayed for some time after the patient is able to be up and about, and is apparently perfectly well. The duration of convalescence varies with the patient's previous health, but the strength is usually regained rapidly, and relapses are very rare.

I may call your attention here to several facts, viz.:—That in croupous-pneumonia in children the crepitant râle is less frequently heard than in adults. That rust-colored sputa are hardly ever seen, as children under seven years rarely expectorate. That rust-colored matter is sometimes expelled from the lungs by vomiting and greatly aids the diagnosis, and consequently all stomach ejecta should be carefully inspected. That redux crepitation is rarer than in adults. That cough, while present throughout the course of the disease, is never productive, the terms *dry* and *loose* simply indicating the sound produced, and having no reference to expectoration; the cough is dry in the first two stages, loose in the third. That the physical signs, except in apex pneumonia, are best developed or indeed almost confined to the posterior lower segment of the chest, and extend but a short distance anteriorly, the lower lobe being most frequently involved. Finally that passiveness during the examination of the chest is a valuable indication, loud screaming being strongly against serious lung involvement.

Croupous-pneumonia is often difficult to diagnose at its commencement. Vomiting is a prelude to many diseases, and especially to the eruptive fevers; thus in scarlet fever, there is often obstinate vomiting with high temperature and rapid pulse, as in pneumonia. The only way to decide between the two is to wait twenty-four hours, when, if the disease be scarlet fever, the eruption will make its appearance first on the neck and upper part of the chest. There is another point which will aid in the diagnosis; in scarlet fever the throat is inflamed, while in pneumonia this is not the case.

The eruptive fevers are also often preceded by violent convulsions. A child who is about to have scarlet fever, variola or even measles, may have one or more convulsions, and this is especially the case in variola. However, the convulsions preceding the latter disease are not usually attended with great elevation of temperature on the first day ; if they last until the second day, there will be high fever, but then on the following day the eruption appears and clears up the diagnosis. When pneumonia approaches latently with no other symptoms than high temperature, frequent respiration and pulse, it is often difficult to form an opinion and you must wait until the development of the characteristic physical signs.

As to the part of the lung involved in the pneumonic process, in children under one year of age, one or other apex is frequently affected, but as the age advanced, this becomes rarer, the lower lobe being usually affected, and when adult life is reached, it is exceedingly uncommon. The younger the child, the more apt is the disease to be seated at the apex. The symptoms which pneumonia in this situation presents are very similar to those of tubercular meningitis, and when you have meningeal symptoms attended with high temperature, which is unusual in tubercular meningitis, at least in its early stage, remember the possibility of the occurrence of apex pneumonia, and carefully examine the lungs. So close is the resemblance that pneumonia of the apex has been called cerebral-pneumonia.

The indications for treatment are first to reduce the fever, and second, to support the strength. Pneumonia is a self-limited disease, and if you keep up the strength the patient will recover. The two things which most tend to prostration are the high fever and the small quantity of food taken. In order that the least possible amount of force shall be expended, the patient should be kept in bed, but this direction is almost superfluous, as the child is usually far too weak to sit up. The temperature of the room should be about 68°. In order to reduce the fever, it is a good plan, if the child be under observation, to use tincture of aconite root; to a child of the age of our patient, I should give one-quarter of a drop every fifteen minutes until one drop has been taken, and afterwards one-quarter of a drop every hour; watching the effect upon the heart, and stopping when the fever diminishes. When the patient can not be seen often I use a solution of citrate of potassium which acts in a similar manner to aconite. The dose for an infant of twelve months is a teaspoonful of the officinal solution every two hours. It can be made more effective by adding a little syrup, or wine of ipecacuanha. I shall order for this child, the following:

℞
Syrupi Ipecac. fʒj.
Liq. Potassii. Citrat. f℥iij. M.
Sig. A teaspoonful every two hours.

Feeding is important. This child is still nursing, and I have ordered his mother to give him the breast every three hours. As he was very pale and much broken down by the disease when I first saw him, I ordered fifteen drops of whiskey every four hours, during the day and night, and this must be continued.

The local treatment consists in covering the affected side with a flaxseed poultice. If the case be seen in the stage of congestion, and the diagnosis be made, as it often can, more decided counter-irritation should be employed; a mustard plaster, or if the child be robust, a couple of dry cups may be applied over the affected area. Afterwards a flaxseed poultice, made smooth and moderately thick, should be applied and covered with oil silk. If you think that proper attention will not be paid, you may order in place of the poultice, a layer of cotton batting, from a half to one inch in thickness, to be placed around the affected side and over the shoulder, covered with oil silk and held in position by a towel or bandage. The cotton prevents the evaporation of the insensible perspiration, and thus keeps the skin moist and acts as a poultice. The flaxseed poultice must be changed at least twice in twenty-four hours, whereas the cotton dressing need not be changed during the whole course of the illness. This plan of treatment must be continued during the stages of congestion and consolidation.

As soon as resolution begins and the temperature falls, you will observe that the patient becomes very weak. The temperature falling about the ninth day, there is a sort of rebound and the system passes from a state of active inflammation to one of depression. Under these circumstances, stimulants are called for, the best being whiskey and carbonate of ammonium. When resolution begins in this child, I shall give carbonate of ammonium, one grain with thirty drops each of syrup of acacia and peppermint water every two hours and gradually increase the dose to two, or two and a-half grains if necessary, at the same time increasing the whiskey to thirty drops every four hours. Stimulation is needed for four or five days. Then the appetite returns and strength is rapidly regained. The stimulants should now be supplanted by tonics, as bitter wine of iron or ferrated elixir of cinchona; of either half a teaspoonful may be given three times a day. During this stage also, the poultice, if it has been used, should be substituted by a cotton jacket; or if cotton has been used, its quantity should be gradually diminished by pulling away a small portion twice a day until all is removed. Flannel should then be worn, and changed morning and evening. When the patient is well enough, the tonic effect of moderate exercise in the open air in suitable weather should be utilized.*

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* The patient reported on December 6th, 8th and 11th.

On the 6th the skin was much cooler, the face nearly natural in expression, the respiration more quiet, and the alæ nasi passive, the pulse slower, the cough less frequent and annoying, and the appetite slightly improved. There was, however, no change in the physical signs.

On the 8th the general improvement was still more marked. The percussion over the affected area was more resonant, the breathing approached *broncho-vesicular* in character, and the cry was not nearly so clearly transmitted to the ear. There were no rales.

While discussing the question of treatment, I must refer briefly to the use of digitalis. In some cases, particularly when the temperature reaches and remains at a high point, and when more than one lobe is involved, the heart muscles become greatly weakened, and death may result from cardiac arrest. A weak, frequent pulse—160 to 180 beats per minute, for instance—and a feeble first sound, indicate this complication. Tincture or infusion of digitalis must then be administered, in doses varying with the age, and the effect desired; either preparation may be given with the citrate of potassium mixture in the early stages, or with the carbonate of ammonium in the later; you will find it best, though, not to combine them in the same prescription, but to order a separate bottle, and direct the dose and the frequency of exhibition at each visit. Quinine, too, will prove valuable in keeping up both the general and the cardiac force. It is best administered in the form of suppositories, the dose depending on the age; thus, for a child one year old the following formula would be available:

℞
Quiniæ Bisulph. gr. viij.
Ol. Theobromæ. ʒiij.
M. et. ft. supposit. No. xij.
Sig. Use one every four hours.

The poultice was changed to a cotton jacket, the whiskey continued, and as the child was pale and weak, the following was ordered:

℞
Ammon. Carb. gr. xij.
Syr. Senegae. m xxxvj.
Syr. Tolutan. fʒi.
Mucilag. Acaciae. f℥iij.
Sig. Teaspoonful every two hours.

On the 11th, the appetite having returned, and the strength being better, she was ordered to continue the whiskey, and take fifteen drops of ferrated elixir of cinchona three times daily.

Since then convalescence has been rapid and uninterrupted, and she is now (Dec. 18th) practically well, though the physical signs are not yet quite normal, there being still some impairment of resonance and harsh respiration over the seat of consolidation.

Now, one word in regard to prognosis. The disease is not nearly so fatal in children as might be supposed. The death rate depends upon the amount of lung involved. Apex pneumonias are not unfavorable, and when one lobe only is involved, in a previously healthy patient, recovery may be expected in nearly every case. In double pneumonia, the prognosis is, of course, very grave.

The second case I have to show you is one of acute pleurisy. The child, who is six years old, has had bronchitis for three or four weeks, but two days ago there was a sudden exacerbation in the symptoms. She had a chill followed by high fever, and the cough, which still continued, produced pain in the left side, a short distance below the nipple. Her appetite has been poor, her bowels moderately regular.

Let us now investigate her present condition. She is a hearty looking girl; has not the anxious expression seen in the first patient, but her face is red, and the cheeks are especially flushed, and plainly show that she is suffering from some febrile attack. Her pulse is now 150 per minute, though if she were not under the excitement of coming before you, it probably would not be more than 120. There is no movement of the nostrils in breathing, and little apparent increase in the frequency of respiration. The skin is dry, and estimating by the touch the temperature is above 103°. She coughs considerably, and this causes pain on the left side two or three inches below the nipple. Her tongue is lightly frosted as is the case in all inflammatory affections, and she is very thirsty, has little appetite, and the bowels have been confined for the past twenty-four hours. Before we consider the physical signs, I wish to refer to the fact that the patient has a loose cough, but this is the result of the bronchial catarrh she has had for several weeks. I call attention to this because, otherwise, this symptom would not correspond with my diagnosis; the cough of pleuritis being dry.

On percussion, there is, at the base of the right chest posteriorly and laterally, flatness and increased resonance, and on ausculting the chest a friction sound, is heard at the anterior border of the axillary region, an inch and a half below the nipple line. Over the rest of the left lung, and on the right side percussion is resonant and auscultation reveals moist bronchial râles.

Let us study the differences between this and the previous case. In the one the child has an anxious expression, while in the other the expression is almost natural. In the one there is great interference with respiration, as evidenced by rapid breathing and movement of the wings of the nose; in the other there is nothing of the kind. On examining the lungs different physical signs are obtained. In the pneumonic patient there is increased resonance and dullness of percussion; in the case of pleurisy there is also increased resistance over the lower fourth of the left lung and an approach to flatness, but on auscultation, instead of the tubular breathing there is the normal vesicular murmur, perhaps somewhat enfeebled, mucous râles, the result of the catarrh, and the pathognomonic sign, the to-and-fro dry friction sound.

In my experience, the early stage of pleuritis with friction sounds is often recognized in children, and recovery results either entirely without or with the occurrence of very trifling serous effusion. This is especially apt to occur when the child is strong and healthy. If there be any diathetic tendency, as the tuberculous or strumous, or if the attack has been immediately preceded by one of the specific fevers, as measles, or especially scarlet fever, the pleurisy is apt to be attended with effusion. The effusion which attends pleurisy following scarlet fever or measles is very prone to change from serum or pus, while in either of the diatheses mentioned this change may or may not occur, though it must be expected when the collection is uninfluenced by treatment for several weeks.

In this child the affection will probably continue several days longer. As the disease declines, the fever will gradually subside, the pain grow less, and the physical signs disappear, the friction sound at first becoming inconstant, and at last disappearing entirely.*

What is the treatment to be adopted? The child must be kept at perfect rest in bed. Over the affected side we shall apply a poultice to act as a counter-irritant, drawing the blood to the surface and relieving the congestion of the pleura. As there is an inflammatory fever, a light and nutritious diet must be selected, since fevers of this kind are attended by gastric catarrh, and strong food cannot be digested. I shall advise a diet consisting of milk, and once a day a little beef broth. The only medicines indicated are diaphoretics as the following:

℞ Spr. Ætheris Nitrosi, fʒij.
Liq. Potassii Citratis, q. s. ad f℥iij.
Sig. A dessertspoonful every two hours.

Sometimes after fever has subsided, you will hear a friction sound on auscultation, especially when the breathing is forced, as it is after running or coughing, showing that plastic exudation has taken place and that there may, perhaps, be a tendency to adhesion between the two pleural surfaces. Under these circumstances, an alterative is called for to favor the absorption of the effused lymph. For this purpose iodide of potassium is most useful; beginning with doses of one or two grains in half a fluid drachm each of compound syrup of sarsaparilla and water, three times a day; or, if there be anemia, ten drops of the syrup of the iodide of iron three times a day may be substituted. Locally, an ointment consisting of equal parts of the compound iodine ointment and lard may be applied twice a day. If the tincture of iodine is used, inflammation of the skin is likely to be produced, and after this has occurred no more of the iodine is absorbed. The ointment, when properly diluted, causes no such result. The iodine is absorbed, and thus we get an alterative effect, in addition to a counter-irritant action.

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* The patient returned on December 11th. The fever and the physical signs of pleuritis had then disappeared. The bronchial catarrh was still present, although the cough and expectoration were less annoying and the mucous rales much less abundant.

Clinical Memoranda.

A CASE OF ACQUIRED SYPHILIS IN A CHILD.

BY ROBERT MILBANK, M. D.,

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Emily P., aged five years and seven months, came to the New York Polyclinic on December 8th, 1883, accompanied by her mother, who stated that there was "a discharge from the child's privates."

Mrs. P. had evidently been indulging in stimulants, and vaguely hinted that the child might have been assaulted, but, when pressed for facts, furnished none.

Family history as follows: The mother has one other child living, and has lost three. The first two were twins, and died two days after birth. Emily is the third child. The fourth was still-born at term. Emily had whooping-cough when three months old, measles when six months old, and diphtheria last summer.

Both of her parents are healthy, and there is nothing in the history of the family of any special interest in connection with this case.

Examination of the child showed her to be of average size, well nourished and intelligent.

The right labium majus was red, swollen, tender and painful, but I found no evidence of any solution of continuity or cicatrix. The hymen was normal in extent, unruptured, but reddened and inflamed from a purulent, fetid discharge, which was being poured over it from the vagina. The vaginal orifice was quite small, and from the limited view allowed, the vagina seemed red and inflamed. Some of the inguinal glands of the right side were swollen and slightly tender.

No other lesions were visible anywhere upon the body.

I ordered poultices for the labium and inguinal glands, and a mild astringent injection for the vaginitis.

She returned on December 12th with the vaginitis considerably improved, but with no change in the affected labium or in the condition of the glands, except that they were less tender.

The next time I saw her the vaginitis had nearly disappeared, the labium was nearly normal, the glandular swelling had diminished somewhat, but now there was a typical syphilitic roseola on the face, chest, arms, hands, feet, and less on the back. The submaxilliary glands were swollen and tender, the post cervical were enlarged, as were also the epitrochlears. The soft palate was reddened, and a grayish ulceration was observed on the left anterior pillar of the fauces.

Both parents came with the child, and from their story, corroborated by the child's statement, I ascertained that a man who had been boarding with the family last summer had, two or three times, while in a sitting posture, held the child in such a position as to have inoculated her per genitalia externa.

This occurred in September last, and the secondary manifestations have accordingly appeared in December.

I ordered the child to be put on the mixed treatment, and to have cod liver oil three times daily.

She has returned several times for a renewal of her treatment. The eruption has disappeared, leaving only slight vestiges—atrophy at its site. The throat shows a little ulceration. The glands have decreased in size, but are still palpably enlarged. I have exhibited her to the class from time to time.

Fortunately, acquired syphilis in children is, I believe, rare, and particularly is this true about the disease when communicated in this way. The train of symptoms, however, was conclusive.

It may be interesting to know that the mother of this child applied to the Judge of one of the Courts of this city for a warrant for the arrest of the criminal.

At first he was naturally enough incredulous, but when I was subpœnaed and appeared in Court, stating the facts, he was convinced.

He, however, said that as there was no evidence against the accused except the little victim herself, and she not being old enough to understand the nature of an oath, it would be useless to undertake to hold him.

A CASE ILLUSTRATING (1) THE DEVELOPMENT OF SCROFULOSIS AFTER VACCINATION IN A CHILD PREVIOUSLY HEALTHY; (2) ACUTE BRONCHO-PNEUMONIA WITH A LOW TEMPERATURE.

BY L. EMMETT HOLT, A. M., M. D.,

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Mary N., aged sixteen months, came under my observation at the Northwestern Dispensary November 2, 1883, as almost a typical strumous child. The mother said the child had been perfectly well until vaccination, two months before. She had never had whooping-cough, or any of the exanthemata. The mother was carefully interrogated regarding cholera-infantum, otorrhea, ophthalmia, bronchitis and glandular enlargements, but no history of any of them could be obtained.. The child was born at full term, walked before it was a year old, and had been nourished at the breast exclusively. It had always been regarded as exceptionally healthy.

The mother was a stout, hearty-looking woman, and the father was reported never to have been sick. The patient was the last of eight children. Six others were living, the eldest having died at fifteen months of cholera-infantum. I saw four of the six. One was said to have been "delicate" while an infant, but now, at six years, showed no sign of disease. The others were as stout and robust a set of children as one often sees. The family history was carefully traced out, and the only evidence of hereditary disease was caries of the spine in a cousin and a probable case of phthisis in an uncle; both were on the father's side. The hygienic surroundings of the family were poor.

The vaccination aforesaid was performed by one of the corps of the Board of Health, so that it is fair to presume that it was properly done and that pure virus was employed.

It was followed in two weeks by a general pustular eruption over the face, chest and upper extremities; also by enlargement of the axillary glands, those of the arm not inoculated going on to suppuration. The child had been since in poor condition and had lost flesh, strength and vitality. For a week past a slight cough had been noticed. On examination I found the patient thin and anemic, but not emaciated. The vaccine ulcer was covered by a scab, but the whole had an unhealthy look and showed no vitality.

There was marked infiltration of the axillary glands of both sides. Around those of the left side was a patch of chronic eczema the size of one's hand.

Cod liver oil and tonics were ordered,

The child was brought back at the end of a week, with the report that for the past three days it had been very sick—had refused to nurse almost entirely, was very cross and irritable, crying with a low, feeble whine. There had been much sweating at times, but not much fever. The cough had been more severe than before.

There had been no vomiting; the bowels had moved every day but one. I found the child in a profuse perspiration, and too sick to hold the head up; general muscular relaxation. Temperature 101° F., respiration 60 per minute. It coughed considerably, though this was loose. Nothing found on examination of the throat; tongue coated; face pale; she lay in a half stupid, drowsy state, when left alone, but was easily disturbed, and then became very irritable. There was some dyspnea, no cyanosis. Pupils rather small, but respond to light; some photophobia. The physical signs were: feeble respiratory murmur over both sides of the chest behind; coarse and fine mucous râles scattered over both lungs—more abundant behind. No relative dullness. A cough mixture and stimulants ordered.

November 10th. She will take the medicine, but it is almost impossible to administer either stimulants or nourishment. Rests poorly; seems too weak to cry, even; no vomiting; bowels have not moved for twenty-four hours, and then not freely. Lies as yesterday when undisturbed, in a semi-stupid state, but quickly rouses; coughs much. Pulse 140, respiration 50, temperature $99\frac{1}{2}$° F.

Physical signs: marked dullness over lower two-thirds of left lung, behind; over this portion there is bronchial breathing, with many fine râles mingled. These signs extend as far forward as the axillary line. Over the whole right side there are many moist râles, large and small, but no bronchial breathing, and no dullness.

November 11th. Vital signs: T. 100°, R. 40, P. 140.

November 12th. 8 A. M., T. $97\frac{1}{2}$°; 12 M., $100\frac{1}{2}$°, R. 48, P. 120. Very little change—none, certainly, for the better. Bowels moved freely by medicine. Pulse of fair strength, extremities warm. Physical signs: in front over both sides, pretty good respiratory murmur, with many fine and coarse mucous râles. No dullness except toward the left axilla. Here there is also bronchial breathing. Behind, signs of consolidation over the lower part of the left lung; marked dullness; loud superficial bronchial breathing and bronchophony, and a few râles. The upper part of this lung gives slight dullness, broncho-vesicular respiration, and many fine mucous râles—all of a high pitch. Over the right side, there is slight dullness near the spine, with a few small areas of bronchial breathing, and numerous moist râles over the whole lung.

Nov. 13. 7 A. M., T. 98½; 11 A. M., T. 99½ R. 46; P. 140; 7 P. M., 100¾°.

Nov. 14. 8 A. M., 100½°; 1 P. M. 99½°; R. 44; P. 120. Is loosing ground, rested badly last night, still a tendency to constipation, bowels not moving without medicine. A high fever reported this morning, followed by a profuse perspiration sufficient to wet the pillow. 6 P. M., T. 99½°.

Nov. 15. 8 A. M., T. 104½; 1 P. M., T. 100°; R. 48; P. 140. Is emaciating steadily. Can be made to take only from ℥ss to ℥i of brandy a day, and no milk to speak of. The water is passed regularly, spleen is not enlarged. There is no essential change in the physical signs. 6 P. M., T. 97½°. No further head symptoms have developed. Five grains of quinine were given this evening.

Nov. 16. Died quietly of exhaustion at 3 A. M., having been sinking steadily for twenty-four hours.

No autopsy could be obtained.

I have reported the family and previous history of the child in detail, in order to emphasize the fact that vaccination, as well as the other exanthemata, may bring to the surface any latent constitutional vice. Here was a child, apparently in perfect health, and a proper vaccination, and the product of these two factors is a very marked scrofulosis. The laity, under such circumstances, are usually ready to attribute the result to some impurity in the virus. The same disposition often exists, I am afraid, among members of the profession. In this case the cause must be sought, it seems to me, rather in evidences of tuberculosis in the father's family.

The broncho-pneumonia which developed subsequently was in some respects anomolous, at least in my own experience. It lasted just ten days. The temperature only once rose higher than 101° F., which was twenty hours before death. Only once besides this did it even touch 101°. It would seem, then, that we must no longer insist upon a continuous high temperature as essential for a diagnosis of acute pneumonia in children. It might be well to add, that the temperature was taken, in every instance, in the rectum, and with a thermometer which agreed with one certified to be correct. The marked degree of prostration, from the ouset of the pneumonia, was very striking. It was to this, perhaps, that the low temperature was due : that the child did not have vitality enough to produce a high temperature. This we sometimes see in the pneumonias of very old people. Occasionally in acute peritonitis, where the depression of the nervous system is very great, the temperature is sometimes low throughout. Perhaps we are to look for such an explanation in this present case.

Translations.

BY AND. F. CURRIER, M. D.

New York.

Hesselbarth : Contribution to the Literature of Malignant Complications in Scarlatina. (*Arch. f. Kinderh.*, B. V. H. 3 and 4.)

The author justly remarks that the ætiological investigation of infectious diseases has made wonderful progress during the past few years, on account of our greatly extended knowledge of micro-organisms. At the present day a large number of diseases are known to have a parasitic origin, and this number is likely to increase as the modes of investigation are perfected. All diseases which follow a typical course must excite suspicions of parasitic origin, and the conjecture is justifiable that a disease is dependent upon certain forms of vegetable life, when febrile phenomena are associated with it. The dissemination of disease-processes over the entire body is likewise a cause of suspicion that parasitic elements are at work.

It is worthy of consideration that the term complication may sometimes be misleading, and the supposed foreign element may perhaps be an integral part in the history of the disease, which appears in some cases, and in others is not developed. The material from which the author's investigations were made comprises eighty-one cases of scarlatina, the histories of which were recorded at the Pathological Institute at Berlin, between the years 1858 and 1882. In nine per cent. of these cases the disease occurred in tuberculous children. Seventy-five per cent. of the cases died during the first decade of life, nineteen per cent. during the second decade, and the remainder during the third. The largest number of deaths (17) occurred during the fifth year. During the first year there were no deaths. The author's investigations confirm the statement that the largest number of deaths occur during the autumn.

As to malignant complications, he first studied affections of the serous membranes, blood, and lymph vessels. In this class acute fibrinous pachymeningitis and acute sero-fibrinous pericarditis, each combined with pleuritis, included together four per cent of all the cases. Inflammations of the pleura included five per cent. Malignant inflammations of the serous membranes in joints included another five per cent. Twelve and a half per cent represented those affections of the vascular system which were expressed externally by cutaneous hemorrhages, and were regarded by the author as a phenomenon of mycotic origin. Diphtheria formed a complication in as many as fifty per cent. of the cases, this being considered under the second division, which included complications involving the skin and mucous membrane. The diphtheritic affection was distributed in the following manner: half the cases involved the pharynx and tonsils, ten per cent. the larynx, the conjunctiva and the nares each four per cent. Diptheritic wounds of the skin and diphtheritic swelling of the mucous membrane of the stomach were also found in four per cent. of the cases. Diphtheria of the vocal chords occurred three times. *Colpitis diptheriea*, diphtheria of the venticle, and diphtheritic cystitis each once. Catarrhal laryngitis and tracheitis complicated twenty-five per cent. of the cases, and in more than sixty per cent. the lower part of the respiratory tract was affected. Gastro-enteritis, usually of a catarrhal form, had a representation of twenty-five per cent. As to parenchymatous inflammation of the internal organs, broncho-pneumonia and fibrinous pneumonia were represented by twenty-five per cent. Febrile hepatitis by twenty-five per cent. Hyperplasia of the spleen by fifty per cent. The kidneys were almost always affected, either with hyperemia or parenchymatous nephritis. In a number of cases the lesions were of a very severe character. Adenitis of the tongue occurred once. Phlegmonous inflammation of the larynx and tonsils eight times. Gangrenous pharyngitis and tonsillitis twice. Follicular gastro-enteritis eight times. Parenchymatous gastro-adenitis three times. Swelling of the solitary follicles and Peyerian patches five times. One of the most malignant complications was that which involved the salivary glands, which was associated with *angina maligua.* Several other complications are mentioned which were severe enough, but as each occurred only once we have not reproduced them. Whether these parasitic affections (in so far as these diseases can be considered parasitic) are caused by the same micro-organisms which produce the symptoms of the simple scarlatinal process is a question which is not yet decided, and many more experiments must be made before we can hope to reach a decision.

Thomas: Concerning the Treatment of Syphilis. *(Arch f. Kinderh*, B. V. H. 3 and 4.)

If children with hereditary syphilis do not quickly succumb to the severe effects of the disease, the question of nourishment presents itself to us as an exceedingly important one. When severe coryza exists, as is frequently the case, the question becomes especially difficult, both from the consequences to the child and to its nurse. Oftentimes in such cases all nourishment must be given with the spoon. Mother's milk is the most fitting nourishment for these, as for all infants, but the mothers of syphilitic children are often unable to nurse them. If a wet-nurse is to be provided, we are confronted with the possibility, and even the probability, that she will be infected through the nipple by the secretions of the infant. It becomes a matter of grave responsibility with a physician in such cases to inform her of the risk she is running, and if she decides to take the chances, to leave the responsibility entirely with her. A law should be framed to prevent women from letting their services under such circumstances, on the ground of the danger to which they may be subjecting others by their exposure. In France, successful attempts have been made to suckle syphilitic infants with goats. If the infected children have good constitutions in other respects, they may be cured in some cases without specific treatment, but the duration of such treatment will be long and the effect uncertain. As a means of treatment, the author gives the preference in all cases to mercury over iodine. Its effects upon marasmic infants, even in a few days, are sometimes wonderful. The best results are to be expected in cases where there are no severe local affections, and in which the disease first made its appearance several weeks after birth. In his opinion, there are no contra-indications in the use of mercury. Those cases are rare in which the intestinal catarrh of syphilitic infants is not cured by its use. Mercurialization need not be dreaded, for it very rarely occurs. The form of mercury which is most approved by the author is calomel, in doses of from one to three hundredths of a grain, three to four times in a day. If the diarrhœa be severe, a little opium may be given with the calomel. For condylomata and other skin affections, calomel is also to be recommended. Sublimate baths (one to three grains to a bath) are also a very useful means of medication. Care must be taken to prevent the water from getting into the mouth. Inunctions of mercurial ointment are not advisable in very young infants, on account of the eczema which may be provoked. For children from one to two years of age, inunctions are quite proper and efficient. Sub-cutaneous injections of sublimate are not to be recommended for very young children. When used, the quantity should be from two to three thousandths of a grain, mixed with ten times its weight of sodium chloride. In the place of calomel, the yellow iodide of mercury may be given two or three times a day, in doses of from one-hundredth to fifteen thousandths of a grain. Preparations of iodine offer fewer prospects of recovery than those of mercury. They are also more apt to cause irritations of the skin and mucous membrane. Either the iodide of potassium or of sodium may be given, in doses of from three to five tenths of a grain. Later, if the symptoms of the disease have not disappeared, a solution of the iodide of iron may be given with advantage.

Epstein: Concerning the Washing Out of the Stomach in Nursing Children. (*Prager. Med. Wochen, No. 34, and Rev. mens. des Mal. de l' E, Jan. 1884.*)

This operation has been practiced by the author during the past few years with marked utility. The apparatus which he uses for this purpose consists of a Nélaton sound (8, 9 or 10), thirty-five centimeters long. Its end is secured to an elastic tube, forty or forty-five centimeters long, by means of a small glass tube, which is introduced both into the sound and into the elastic tube. Its introduction into the stomach of children, even if only a few days old, is said to be as easy of accomplishment as into that of adults. Only ordinary precautions are necessary in performing this act, the tube being propelled forward by the action of deglutition. Contractions of the stomach follow the irritation caused by the presence of the tube, and evacuation of its contents and irrigation follow. Epstein uses thirty to fifty grammes of lukewarm distilled water to accomplish the washing, and to the water may be added a little benzoate of magnesia, or hydrocarbonate of soda. The liquid is slowly poured into the tube through a funnel, which is raised (with the end of the tube) to a sufficient height, care being taken to prevent the introduction of air. If the infant should cry during the process, the latter must be suspended for the time. It may be necessary to repeat the washing—perhaps three times—before the liquid is returned without discoloration. With ordinary care, perforation of the walls of the stomach is not possible; there may, however, be slight capillary hemorrhages excited by the efforts at vomiting. There is also no danger that a tube of the given length will pass the pylorus and empty its contents into the intestine. In the case of an infant with diseased lungs or heart, the washing is contra-indicated. The indications for the procedure are catarrh of the stomach, added to a similar condition of the mouth and intestines, fermentation and indigestion, with the peculiar products attending these conditions. At the commencement of infantile cholera it has also proved useful, and it should be continued as long as the child shows a disposition to vomit.

Blache : Vaccine Virus Efficacious without the Production of Cutaneous Manifestations. (*Rev. mens. des. Mal. de l'E., Nov., 1883.*)

The usual supposition is that vaccination has been ineffective if, after several days, the characteristic pustules do not appear. That this is not always the case appears from the experience of the author of this paper. He vaccinated, upon the same day, five infants from three to five months of age, with virus from a young heifer, obtained *fresh* a few hours before it was used. In two cases the vaccination *took* unmistakably. In a third, after a few days, there was swelling and also pain at the point of vaccination puncture—the operation having been performed by thrusting a cannulated needle, charged with the virus, into the muscular tissue of the arm. An abscess was supposed to be imminent, and treatment proper for such a condition was adopted, but no abscess resulted. In the fourth case swelling was also noticed at the points of puncture ten days after the operation. In the fifth case there was also slight local swelling. After ten days there remained of the swelling, in these three cases (which alone are of interest in this connection), nothing but a few small nodosities, which, however, could be plainly felt, either in the fatty or the muscular tissue. Traces of them remained for more than six weeks. While they were yet plainly perceptible revaccination was practiced, with all possible precautions, in both arms in each case. Results : In one, redness and swelling in thirty-six hours in both arms, an evidence of the so-called *false vaccination*, which is a local manifestation that the patient is still protected by an antecedent vaccination. In the other two cases no result was perceptible. A third vaccination was performed upon one of them, *false vaccination* resulting. These facts, together with the circumstance that similar ones have been observed in the inoculation of sheep, lead to the belief that the vaccinal pustule is not a necessary consequence in order to effectual vaccination; in other words, that some people can acquire the protection afforded by vaccine without the customary eruption. It is also undoubtedly true that there are people who are especially rebellious to the influence of vaccine, and still others with whom the period of incubation may be protracted through two, three, or even four weeks, but these statements do not militate against the former ones, which are substantiated by that most convincing agency, personal experience.

Bode : Concerning the so-called Fetal Rachitis. *(Virchow's Archiv. für Pathologische Anatomie und Physische Erziehung.* B. XCIII., H. 3, 1883.)

This paper was suggested by a case which was demonstrated before the Dresden Gynecological Society in 1881. The mother of the fetus showed no evidence of rachitis, and only a moderate development of struma. Labor occurred six or eight weeks before the full term of pregnancy. The diagnosis of rachitis was confirmed by microscopical investigation of the fetal skeleton. The distinguishing characteristic in this particular specimen, which illustrated what is known as the micromelic form of rachitis, is a disproportion between the head, breast, belly and extremeties, the head being very large and hydrocephalic, the thorax short and narrow, and the extremities crooked, small and insignificant. It is usual to find the lungs and heart small in such cases, the thymus, thyroid and liver large, the uterus and kidneys also large. The spinal column may show either skoliosis, lordosis or kyphosis. The diaphyses are usually short, the epiphyses greatly enlarged. The flat bones are thick, often very porous, and provided with large nutrient foramina. This form of rachitis is to be differentiated from *rachitis annulans*, a congenital disease, which differs also as to its period of invasion and its duration. It appears at the latter part of pregnancy, and continues after birth; the micromelic variety begins early in fetal life, and ends before birth. *Rachitis annulans* is diagnosticated by ring-like enlargements upon the bones, and multiple fractures. The rings may be due to fractures which have healed, or to unequal deposits of bony *matrix.* The cause of this peculiar condition may be the super-position of the relatively heavy trunk upon a pelvis which is too weak, irregular muscular contractions, or some other agency not as yet ascertained. *Hydramnios* has been found associated with this disease in several cases. Finally, the disease may be due to syphilis, rachitis, struma, tuberculosis, etc., in the parents. It is to be noted that different processes may produce the same results in different cases. What these processes are is not yet definitely known.

Baginsky: Concerning Infiltrated Pulmonary Tuberculosis in Children. (*Arch. f. Kinderh.* B. V. H. 3 and 4.)

The author first briefly reviews the history of tuberculosis, describing in turn the views of Bayle, Laennce, Virchow, Niemeyer and others, until the culmination is reached in the isolation of the tubercle-bacillus, and the present *status* of the subject. As the result of a large series of investigations, he divides the cases which he studied into three groups. In the first he includes those in which large cheesy nodules in the lungs are evidently formed by the agglomeration of smaller ones, whether of the miliary or a somewhat larger variety. In the second, which is a much larger group, the miliary tubercle plays only a subordinate rôle, and the pathological process is represented by inflammatory changes, of all degrees of intensity. In almost all such cases the pleura is more or less involved in the inflammatory process, and other organs are, as a rule, also involved. Cheesy masses with *vomicae* abound, and in other cases the favorable signs of calcification are found. In the third group are those cases in which rapid and extensive breaking down of the *cheesy* tissue is most apparent, with extensive ulcerative processes, and involvement of organs in addition to the lungs. In all three groups miliary tubercles form the essential element of the disease, and are to be regarded as anatomical entities. *Infiltrated tuberculosis* is to be observed from another stand-point, and the author formulates its relation to general tuberculosis as follows: 1. The separation of miliary tubercle from the cheesy infiltration is anatomically proper. 2. The processes of miliary tuberculosis and diffuse infiltration, which lead to caseation and to cheesy destruction of tissue, should be separated clinically. 3. Miliary tubercles, as well as the diffuse cheesy infiltrations, are both the result of infection from Koch's bacillus, and hence the processes stand etiologically upon the same ground. In conclusion, the author states that the proof is wanting which would enable us to attribute to all scrofulous affections the influence of Koch's bacillus, however probable such influence may appear.

Magitot: Concerning the Syphilitic Origin of Rachitis. (*Gaz. des hôp No. 53, 1883, and Arch. f. Kinderh.* V. 3 and 4.)

The author's paper is an additional criticism in opposition to the theory of Parrot that rachitis is merely an expression of congenital syphilis. The criticism is aimed at the "*syphilis dentaire*" of Parrot, *i. e.*, the deformed teeth, from the presence of furrows and crescentic notchings, which are considered by him (Parrot) as an indication of syphilis. Three questions are propounded by Magitot. The first is, is the erosion of the teeth a characteristic and unfailing sign of hereditary syphilis (as Parrot considers it)? The answer is, no, for (*a*) it is not a constant symptom; (*b*) those who possess it are known to have acquired chancre; (*c*) it occurs in cases in which no traces of syphilitic history is discoverable; (*d*) it sometimes occurs in dogs, cattle and other animals which are absolutely insusceptible to syphilis. The second question is, does hereditary syphilis have, as a necessary consequent, notable trophic disturbances of the dental apparatus? The answer is, yes, without doubt, but the phenomena which are presented are, usually, small, misshapen, conical teeth, defective anatomically and chemically, and late in their appearance. The third question is, what are the causes of the erosions in question, and the mechanism of their appearance? The answer is, a dystrophy of the two dental tissues, the enamel and the ivory, but not an atrophy, as Parrot asserts. The primary cause is to be found in certain disturbances of the nervous system and the general nutrition, and especially in conditions of a convulsive character, *e. g.*, infantile eclampsia. From such a cause may arise a sudden stoppage in the development of the dental tissue, which, after a time, resumes its natural course, but with the result that the furrows or notchings remain as evidences of the recent condition.

Kassowitz: Concerning the Inheritance and Transmission of Syphilis. *(Arch. f. Kinderh.*, B. V. H. 3 and 4.)

The author opens his paper with the proposition that, when a child comes into the world with symptoms of syphilis, they can have been acquired only in one of two ways—either from the paternal or the maternal germ cell, or through the medium of the placental circulation during pregnancy. The weight of testimony seems to indicate that the former of these hypotheses is the correct one. As to the question of the immunity from syphilis of those mothers who have borne syphilitic children, and have themselves shown no syphilitic symptoms, infection per placentam has not yet been clearly proven. Such women commonly are free from syphilis, provided they are not infected from other sources, and it must be admitted that they seem less susceptible to the disease than women who have not had this peculiar experience. Another interesting question concerns the children of parents known to be syphilitic, who have failed to show the customary evidences of hereditary syphilis. The explanation which the author gives is that they also appear to have acquired a certain degree of immunity against the disease, an opinion which is sustained by Fournier and others. Two theoretical conclusions are deducible from the study of this subject: 1. The syphilitic poison in many cases obtains a lodgement in the *septa* of the common fetal and maternal vascular system, and, notwithstanding an active interchange of the fluids of nutrition during several months, it does not go beyond these septa. 2. That one of the two organisms which communicate through the medium of the placenta, which escapes syphilis, notwithstanding this interchange of fluids, will acquire thereby a decided immunity against syphilitic infection.

Henoch: Concerning Prophylatic Measures in Scarlatina and in Diphtheria. *(Arch. f. Kinderh.,* B. V. H. 3 and 4.)

The author in this paper makes a new attempt to incite the medical profession to more decided efforts at prophylaxis in these two dangerous diseases. He justly remarks, that among the lower classes isolation of their sick children is absolutely impossible. Disinfection becomes an illusion, and the only means in the present arrangement of things by which the State can interfere consists in the closing of the schools at those times when the diseases are prevalent. In addition, Henoch advises the exclusion of all the children of a family in which a case of either of these diseases exists, not only from the houses of their schoolmates, but from all places where children are in the habit of congregating. This provision should be enforced by the State, with punishment attached to its disobedience. The closure of the school should continue for eight days in a time of the prevalence of scarlatina, and for fourteen days if diphtheria prevails. The schools which are attended by the poor, however, should be closed for at least four weeks in the time of diphtheria, and a competent commission should decide at the end of these periods whether the conditions then warrant the reopening of the schools.

Gueniot: Congenital Rachitis Developed and Recovered From Before Birth, in the Absence of All Influence of a Syphilitic Character. *(Rev. mens, des Mal. de l'E, Jan., 1884.)*

The report of a case bearing the characteristics mentioned was given by the author to the Paris Society of Surgery at its séance December 19, 1883. The bony lesions of the disease seemed to have entirely healed, though the previous existence of the disease was undoubted. A careful examination of the father, mother, brother and sister of the infant by the author, assisted by M. Fournier, failed to reveal the least trace or history of syphilis. Hence the opinion is justifiable, in the author's mind, that rachitis may exist without any syphilitic taint. This is contrary to the view which was promulgated and defended by Parrot.

Ponomaroff: Employment of Kumyss (from Cows' Milk) Among Infants. (*Archiv. f. Kinderh.*, B. V. H. 1 and 2.)

The conclusions of the author are as follows: 1. Kumyss (Kuh. Kumys) deserves attention as a means of cure, in many cases of catarrhal troubles of the intestines associated with great emaciation. In its effect upon the juvenile organism it may be classed among the excitants. 2. In the author's experience it exercised a marked influence upon the uropoietic organs. 3. It cannot be used as an exclusive means of nourishment; it is agreeable to take at first, and has a good effect, but after a while loss of weight always attends its use. 4. Infants under one month of age, of less than four thousand grammes weight, find it unsuitable, and it produces disturbances of digestion with them. 5. Not only the age of the child, but also its individual peculiarities, seem to have a bearing upon its tolerance of this substance. 6. The difficulty of its preparation, and the frequent unreliability of the specimens which are available, form a great obstacle to its extensive use in pediatrics.

Wassiljeff: Concerning the Dependence of Diphtheria upon Low Forms of Fungi. (*Jahrb. f. Kinderh.*, B. XX. H. 4.)

The object of this paper was to criticise the opinions which different authors have advanced as to their belief in an organized formation as the source of the contagion of diphtheria. Aside from the recognized fact of the constant occurrence of micro-organisms in the products of diphtheria, and in the diseased mucous membrane, the object was to investigate—(1) the question as to the increase or diminution of those organisms as the local process increased or diminished in severity; (2) the simultaneous occurrence of colonies of micrococci in the blood and lymph vessels of the glands of the kidneys and other organs; (3) the contagiousness of diphtheria by means of vaccination with its products. The following criticisms were made under each of these heads: 1. All the investigators upon this subject do not maintain that the number of the micro-organisms increases with the intensity or the extent of the local process. If this were the case, it would be advanced upon the ground that the diseased mucous membrane affords a most favorable site for the development of the schizophytes in question. 2. Obstruction in the blood and lymph vessels by colonies of bacteria and micrococci does not occur in diphtheria alone, but in other infectious diseases. 3. The proof of the contagiousness of diphtheria by means of vaccination, with its products, does not, as yet, decide as to the organized nature of the contagium, but only as to its fixity. Many investigators have not succeeded in transmitting the disease in this way; others claim that they have obtained positive results, while one careful critic affirms that matter which had undergone decomposition was used in their experiments, and that the disease which was produced by its use was not diphtheria, but merely an infectious disease with an inflammatory exudation at the point of vaccination and septicemia. Any conclusion from such experiments that diphtheria is, at the outset, a local disease, is manifestly a false one. The author's opinion, therefore, was formed, that the disease could not be developed from micro-organisms, or, at least, that the proof of it had not yet been adduced.

Valude: Vesical Calculus in a Boy Eight and One-half Years of age. Supra-pubic operation. (*Rev. mens des Mal. de l'E., June, 1883.*)

According to the patient's history, his urine had been dark and purulent for three years. For some months previous to the operation, he had pains in the region of the navel, and was obliged to urinate frequently. Blood occasionally followed the discharge of urine. Walking and riding were very painful. He had bronchial catarrh and also an attack of pleuro-pneumonia. The presence of a stone in the bladder, hard and quite large, and rough upon the surface, was easily ascertained by means of the sound. Through the rectum, the stone could not be felt. At the time of the operation, after anasthesia was produced, the rectum was distended with a tampon—the bladder was injected with one hundred and eighty grammes of a lukewarm solution of boracic acid. An incision five centimeters long was made in the median line stopping one centimeter above the symphysis. The bladder was then opened and the stone removed without difficulty. There was no hemorrhage of any importance. A drainage tube was placed in the bladder. The edges of the bladder wound were drawn to those of the superficial one, and both were closed with metallic sutures at the same time. . The operation was done with antiseptic precautions. The stone was an oxalate of lime mulberry calculus, about the size of a nut (?) On the following day the morning temperature was 38.5°C.; the evening temperature 39.5°. There was no pain in the vicinity of the wound. The urine was scanty, concentrated and very dark. Symptoms of beginning lung trouble appeared. A bronchitis resulted, and the healing process in the wound was slow. On the seventy-third day after the operation, the child was removed from the hospital. A small fistula still existed at the site of the wound, but most of the urine was passed by the urethra. The lung symptoms when he left the hospital, were those of beginning phthisis.

Fournier: Changes produced in the Teeth by Syphilis. (*From Abstract in Jahrb. f. Kinderh.*, B. XX. H. 4.)

Among the phenomena which are noticeable in connection with hereditary syphilis, are certain ones which are referable to the formation of the teeth. 1. They may be late in making their appearance. Demarquay records a case in which a child, four and one-half years of age, had not had any. 2. Certain changes in their structure are observable. Among these may be mentioned erosions, as the so-called nail marks of Hutchinson. These erosions are crescent shaped, and are located upon the border of the upper central incisors; also microdontism, or dwarfed condition of the teeth; amorphism, in which there are peculiarities in each group—susceptibility to injury which causes them quickly to wear out or to fall out.

Tordeus: Electrolepsis or Chorea Electrica. (*From Abstract in Jahrb. f. Kinderh.*, B. XX. H. 4.)

The chorea electrica of Dubini and the Italian physicians occurs frequently in Lombardy. It begins with pains in the head, neck and loins, is followed by contractions similar to those produced by an electric current. These appear first in a finger, in an entire extremity, or in one side of the face, and after a few days affect the other side of the body. Together with the contractions, there is paresis of more or fewer groups of muscles; then comes a condition of coma, and finally death. In the chorea electrica of the French and German descriptions there are similar contractions to the others, but the sensorium remains unimpaired. The disease lasts for a few days or weeks, and ends in recovery. Tordeus endeavors to prove from his own cases, and those of others among the Italian, French and German physicians, that this disease has nothing in common with chorea. He proposes to give it the name of electrolepsis. His treatment of the disease has been quite successful, and consists merely in the administration of a gramme of the bromide of potash daily.

Abstracts.

Trismus Nascentium, or the Lockjaw of Infants. J. F. Hartigan, M. D. *(Amer. Jour. Med. Sci.,* Jan.) The writer, after quoting from many authors, with widely different views as to the causation of this condition, and making due acknowledgements to the late Dr. J. Marion Sims, with whom he is in perfect accord, as being the first to discover the true cause, viz: "that trismus nascentium is a disease of centric origin, depending upon a mechanical pressure exerted on the medulla oblongata and its nerves; that this pressure is the result, most generally, of an inward displacement of the occipital bone, often very perceptible, but sometimes so slight as to be detected with difficulty; that this displaced condition of the occiput is one of the fixed physiological laws of the parturient state; that when it persists for any length of time after birth it becomes a pathological condition, capable of producing all the symptoms characterizing trismus nascentium, which are relieved simply by rectifying this abnormal displacement, and thereby removing the pressure from the base of the brain:" and further on, "one of two things must *invariably* exist: Either the occiput will be under the parietal or vice versa, according to the position in which the child has generally been retained."

He then goes on to consider the cases which came under his own observation, and which he divides as follows:

1st. Those that recovered under postural treatment.

2d. Cases in which post-mortem examinations were made, many of which were seen before death, but too late to render any service.

3d. Those whose history was obtained after death, the majority also having been seen before fatal results ensued, but where post-mortems were not permitted.

The first class embraces six cases, mostly of trismoid. The second class includes twenty-five cases, selected at random, from one hundred and fifty post-mortems made by the author.

The third class embraces eighteen cases as a fair average of the general results.

From tables of mortality for four years, of cases under thirty days in duration, coming under the coroners jurisdiction, it will be seen that during the six warm months one hundred and six deaths occurred, nearly one-half the whole number, showing that the disease does not prevail in any one season more than another. The term, "nine day fits," is a misnomer, as only seventeen of the two hundred and twenty-nine died on the ninth day. Sex has nothing to do with the disease.

The colored element largely predominates. Mothers being employed during the day, their babies are left to strangers, and very often allowed to remain hours at a time in a crib, generally on the back.

It seems unnecessary to dwell on the numerous other causes ascribed as producing this disease. It has been shown that climate or season exert no special influence.

After the publication of Dr. Sims' articles, cases were reported for and against occipital displacement. Dr. Sims said himself he had not explained everything in connection with it.

It is our privilege to give the results of four or five years' perseverence in the endeavor to elucidate the subject. The physiological explanation showing the effects of pressure on the base of the brain, so admirably described by Dr. Sims, which experiment I have myself repeatedly performed with entire satisfaction, leaves nothing more to be said on that point, except to add that the duration and frequency of convulsions depend upon the degree of pressure.

For instance, I have observed, in the acute form, that when the convulsions continue a certain length of time, extravasation ensues and the case becomes hopeless. In cases of deficient ossification, where the bones are loosely attached by their commissures, or where the displacement is easily detected, the symptoms occur sooner and are more aggravated, the majority dying in a few hours.

Where *one* side is overlapped the disease is milder, and where the displacement is hardly perceptible the symptoms are apt to continue many days.

To better understand the pathology and rationale of the disease, it will be remembered that the child's head, before birth, has for its pillow the soft cushion of the liquor amnii. At birth, and for some time subsequently, the cranial bones are not united, are thin und without diploe. It is reasonable to suppose that the transition to a different usage will cause them to be easily displaced or the occiput to be depressed, the degree and character depending upon position or management.

Another fruitful cause, especially of the chronic form of the disease, is the modern baby carriage.

He then gives results of examination of five spinal cords, four being taken from infants dead of trismus nascentium and one from an infant dead of asphyxia, as follows:

In the cavity of the arachnoid, more or less surrounding the cord, in all cases was found a varying quantity of reddish gelatinous lymph.

In three of the cases of trismus abundant coagula were found in the same locality—less defined in the other. In the case of asphyxia no coagula were found. Microscopical examination of the lymph showed it to be organized containing abundance of capillary blood vessels. No microscopical examination of the cords was made, but they presented the appearances of congestion.

Dr. Hartigan offers as a plan of treatment the change of posture after adjusting the cranial bones, never allowing the child to rest the weight of the head upon the occiput, but changing it from side to side and varying that with the semi-erect position which, in many of his cases, has caused a cessation of the symptoms.

He speaks of another class of cases in which position alone cannot rectify the displacement. This either depends upon too great ossification and consequent impaction, or the apex of the occiput is dislocated or curved inwards. Here a surgical operation becomes necessary.

ROBERT MILBANK, M. D.

The Incubation and Transmission of Diphtheria.—J. H. Salter (*Brit. Med. Jour. Dec. 1*) contributes some interesting facts upon this point. A farm house, several hundred yards distant from any other dwelling, was occupied by a family composed of the parents, four children, and three female servants. There had been previous to the outbreak no communication with any house containing sickness. The locality was high and dry, and no epidemic in the surrounding neighborhood. On October 24th a boy of eleven was seen with well-marked diphtheria, having been unwell for two days. The next day the father and another child were attacked. On the 26th, 27th and 30th of October the servants respectively came down with the disease.

It was learned on investigation that on October 19th, three days before the first child showed symptoms, a woman from another village had brought back some needle work from her cottage, which contained at the time two sick children. One child died somewhat suddenly from what was called "bronchitis." The other was seen by the health officer with well-marked diphtheria. There were no other cases in the district for miles around. The child who died had recently been on a visit to a distant town, where diphtheria was prevailing. The infection seems, then, to have been carried by the woman or the needle work. She lived two miles away, and did not herself have the disease.

The author records another instance of transmission through a third party, which he observed in 1875. A servant girl of a family in which diphtheria was prevailing extensively, and who had done a large share of the nursing, visited her mother's family, three miles distant, for a few days' rest. Soon after this several children in the family were taken with the disease, and three died. These cases formed the nucleus of a severe epidemic. The servant herself took the disease a month later.

L. EMMETT HOLT, M. D.

Tuberculous Disease of Bone.—C. Macnamara, F. R. C. S., *(Brit. Med. Jour., Dec. 8 and 15)*, discusses the pathological changes occurring in scrofulous and tuberculous (he uses the words synonomously) bone disease with much minuteness. He takes hip-joint disease as a type.

The cancellous spaces of bone are normally filled medullary substance made up of adenoid tissue, in the interspaces of which are more or less fat cells, and large nucleated cells. These he designates as "brood cells," from which are produced round homogeneous cells (red blood globules). The adenoid tissue abounds in spaces which serve as channels; it is also rich in blood vessels. Lining the calcified trabeculae of bone are nuclear cells, from which bone grows and is repaired. In disease these are increased in size, and protrude into the medullary spaces. The bone against which they rest is not renewed, perishes, and so comes to present a worm-eaten appearance. In the early stages of hip-joint disease there are found zones in which the adenoid tissue is crowded with round cells, and in the centre of these areas they even hide the reticular tissue. They fill also the spaces usually occupied by the fat cells. Blood-vessels and channels full of round cells may be still seen among them. The centres contain fine connective tissue fibres enclosing the cells. Here no blood-vessels can be seen, as they are occluded by the round cells. The circulation thus cut off, the cells undergo fatty degeneration, disintegration, and small cavities form. Resolution is undoubtedly possible even now, as these areas are surrounded by healthy tissue. If, however, a considerable number of contiguous medullary spaces are thus infiltrated large areas of the medulla and with them their osteoblasts are destroyed. The trabeculae of bone then perish, and a cavity is formed in the bone. Such cavities have been found in every specimen examined. In most cases there is evidence that these cell masses are likely to become calcified. If extensive, this forms a hard, calcareous nodule, which acts like a foreign body. Inflammation and necrosis of the contiguous bone often follows. This termination is even worse than fatty degeneration of the cells. The changes in the medulla differ in no respect from those of tubercle elsewhere in the body. In the upper extremity of the femur, in the early stage, the best marked specimen of tubercle are found near the centre of the bone, just beneath the articular and epiphyseal cartilages. He has never been able to demonstrate the existence of the bacillus in tubercular disease of bone or cartilage before suppuration took place.

On examining sections of these bones an accumulation of osteoblasts, overgrown and calcified, may be found resting against the trabeculae of bone and projecting into the medullary spaces. They may even extend into the tubercular areas. They excite suppuration and necrosis, which continue until the sequestrum is removed. This contributes not a little to the persistent nature of many of these cases.

It would be interesting to determine whether the tubercle begins in a cellular hyperplasia over a different area of adenoid tissue as would be likely, from a contusion or from a definite point in the capillaries as from a baccillus. The evidence on this point goes to show that the primary change is the cell-growth of the adenoid tissue, which leads to the formation of tubercle by crowding together of young cells which cannot escape because their ordinary channels into the circulation are blocked. If this be so, it may explain the great benefit from drainage which clinical experience has proven.

Turning to the cartilages of tubercular bones, there is found almost always evidence of disease in its angle between the epiphyseal and articular cartilages. Patches in the matrix appear granular and more transparent. As the disease advances the cartilage yields to the pressure from cell-growth. The nuclei of cartilage cells proliferate rapidly. Later, they are crowded together in opaque patches and undergo fatty degeneration and disintegration. These changes are independent of the capillaries.

Around these patches the cartilage may be healthy. By the breaking down of one of them a passage may be forced through the cartilage uniting tuberculous cavities of the epiphysis and diaphysis. The author remarks that the changes take place where a growing bone would be most likely to suffer from a contusion.

In the early stage of the disease the articular cartilage is separated from the epiphysis. This is more marked around the ligamentum teres. This separation is caused by the medullary changes, described above, in the part upon which the cartilage rests. Hip-joint disease, then, in its beginning, is a disease of the medulla and of the deep surface of the cartilage forming the head of the femur. This same remark applies to the extremities of the other long bones.

Thus far no traces of the specific baccillus has been found in the early stage of tubercular bone disease. As the disease in the femur and other bones is most marked in the line of resistance to transmitted force, pathological support would seem to be given to the idea that traumatism has something to do with the disease. Clinically speaking, a fall is often found to be the starting point in a susceptible child, while in a healthy child no such consequence would follow. Hereditary tendencies may increase, or even be the sole cause of an unstable condition of the tissues.

The author insists that the only rational treatment of the disease is that based upon a correct knowledge of its pathology. His practical conclusions are: That absolute rest in bed is not indicated. That far more important are open air, sunlight, wholesome food, proper clothing. That the requisite rest to the limb can be secured by a hip-splint, crutches and high shoe. That cod-liver oil and the iodide of iron should be given. That continued counter-irritation by iodine is beneficial. The same principles are to be applied to all bones. If after prolonged trial these means fail. draining the bone under antiseptic precautions may be resorted to.

L. EMMETT HOLT, M. D.

Mediastinal Emphysema and Pneumo-thorax in Connection with Tracheotomy. Dr. F. H. Champneys presented a communication on this subject to the Royal Medical and Chirurgical Society *(Lancet, Dec. 15).* In twenty-eight cases of autopsies after tracheotomy emphysema of the mediastinum was found in sixteen. All the autopsies were made under water. In two pneumo-thorax was observed—not, however, without mediastinal emphysema. The amount of emphysema was the greatest in these two cases. In many, if not in all cases, artificial respiration had been performed.

Dr. J. K. Fowler said that, during the last two years, he had carefully noted the condition of the mediastinum in cases of death from diphtheria. There had been twenty cases; in sixteen tracheotomy was done. The high operation was done in thirteen and the low operation in three. Emphysema had been present in four of the former and in two of the latter; pneumo-thorax was present in two of the former and one of the latter series. Of the emphysema cases artificial respiration had been performed in three only. A case of especial interest was one in which all the signs mentioned by Dr. Champneys were present, although no tracheotomy had been performed. Emphysema was here present at the root of the neck, on both sides and in the anterior and in the middle mediastinum. There was a marked degree of pneumo-thorax on the right side. Air extended upward between the trachea and esophagus as far as the cricoid cartilage. The right upper lobe was distended with air; the middle and lower lobes collapsed; in both of these latter there was interlobular emphysema. The case showed that there was another possible explanation of the mode of entry of air into the mediastinum in death from laryngeal, viz: rupture of the lung. Subsequent rupture of the pleura had caused the pneumo-thorax. It could not be considered proven that in all cases of mediastinal emphysema following tracheotomy the air had entered by the wound.

Dr. Douglas Powell said that in seven cases of death from diphtheria with tracheotomy, in his practice, two showed mediastinal emphysema. In one the tube was displaced from the trachea for some time after the operation. In the other, in a boy of eleven, the emphysema came on quickly, and death ensued in a few hours.

If mediastinal emphysema was already present, tracheotomy would not be successful, as the air passed into the cellular tissue instead of into the vesicles, as the resistance met with was less in this direction. From the paper he thought some practical deductions could be made; that the high operation was preferable, and that it was bad practice to stretch the neck far back, and thus draw the trachea out of the chest, as this rendered a wound of the cervical fascia much more likely.

Dr. Champneys, in closing the discussion, said he had referred only to emphysema after tracheotomy. The route of the air he had determined by experiment. Forcing the tube by the side of the trachea produced mediastinal emphysema above all things. The dangerous period of the operation was between the division of the deep cervical fascia and the introduction of the tube. Emphysema without tracheotomy was no doubt expiratory in its origin. L. EMMETT HOLT, M. D.

Spina Bifida.—Dr. M. J. Roberts (*N. Y. Med. Jour., Jan. 26.)* A male child, of healthy parents, two months old, presented from birth a tumor, three inches long, two broad at its upper part and one at its lower, which occupied the site of the spinous processes of the lower dorsal and lumbar vertebrae. At its upper portion were several slightly ulcerated spots. Fluctuation was very palpable.

In addition to this condition the head, when measured was found abnormally large, both fontanelles being widely open. Double converging strabismus and double talipes varus also existed. The child looked starved, although he had an abundance of good breast-milk. He was very inanimate, and had an unnaturally mature expression. Chronic internal hydrocephalus was diagnosed.

By means of a modification of Dr. F. P. Stevens, sphygmoscope, the child having been deeply anesthetized, it was easily determined that the fluid in the brain and in the spinal tumor communicated.

The treatment consisted in a partial aspiration of the fluid of the sac, followed immediately by firm, continuous compression. Aspiration was repeated at intervals of three to four weeks for more than four months. A galvanic current was twice passed through the tumor, by means of needles insulated except at the points; but the inflammation excited was very slight. At the first application the heart's action and the respiration were seriously affected. For a time there was improvement, the sac becoming smaller and its walls thicker.

The above treatment not producing any permanent results, and the child becoming worse, it was determined to inject Morton's fluid into the sac. Having withdrawn five and a half drachms of the sac fluid by aspiration, the following solution: iodinii grs. X, potass. iodidi ʒss, glycerine ℥i, had begun to be injected, but after the passage of ten minims the child ceased breathing and the radial pulse became imperceptible. Resuscitation was successful, but the child remained comatose, dying in that condition on the fourth day.

Autopsy: The sac, when laid open, was lined with the original membranes of the cord; it contained one ounce of turbid cerebro-spinal fluid, showing, microscopically, red and white blood-cells and columnar epithelium. Lying upon the bodies of the first, second and third lumbar vertebrae, and projecting into the cavity of the sac, was a mass of nervous tissue similar in contour but much smaller. In this nervous mass the central canal of the cord, not visible to the naked eye after sixth month of gestation, measured one-sixteenth of an inch in diameter. The spinous processes, lamina and posterior portion of the transverse processes of the eleventh and twelfth dorsal, and all the lumbar and sacral vertebrae were wanting. J. VAN VORST, JR., M. D.

Cases of Prolapse of the Urethra.—R. H. Day, M. D. *(Medical News, December 1st).* One patient suffering from this very uncommon affection, a negro girl between six and seven years old, was first seen on Sept. 8th, 1883. The history obtained was that a week before she was seized with great pain and a frequent desire to urinate, and with tenesmus and dysenteric stools; that while straining on the night-vessel something, supposed to be her womb, came down, and that since she had been bleeding like a woman in the catamenia.

When first seen there was some fever, and upon examination a tumor was observed protruding through the labia, covering the clitoris, and occluding the ostium vagina. It was dark red in color, rough, slightly depressed in the centre; had a fimbriated border, and bled upon the slightest touch.

The diagnosis was made from the shape of the mass, the fact of its not protruding from the ostium vaginae, and from the characters of its surface.

Operative interference being determined upon, chloroform was administered on September 13th.

An attempt was first made to reduce the tumor by manipulation; this proving unsuccessful, the edges were elevated and a well-waxed silk ligature passed around the narrowest part and drawn sufficiently tight to produce complete strangulation. All the tissue above the ligature was then cut away and the wound thoroughly cauterized with solid nitrate of silver. The ligature was then removed, a pledget of absorbent cotton saturated with carbolized oil applied between the labia and held in position by a compress and bandage, the patient was put to bed, and directions were given to re-apply the dressing as often as necessary.

On the following morning there was great pain from retention of urine, and the bladder had to be emptied by a catheter, which was easily passed after giving chloroform. Subsequently convalescence was rapid and complete.

In his remarks upon this case, Dr. Day states that he does not believe that the prolapse occurred suddenly on the night it was noticed by the mother, but that it was of much longer duration, having been encouraged by general tissue relaxation, due to a recent malarial fever, and so aggravated by the attack of tenesmus as to force itself upon her attention at the special time.

Another case, in a negro child fifteen months old, came under observation two weeks afterward. This child, a girl, was well grown and perfectly healthy in other respects, and was apparently not inconvenienced by the tumor which had been noticed for several months. There was no difficulty in making the diagnosis, for, upon separating the labia, the meatus urinarius could be seen in the centre of a mass evidently composed of prolapsed and everted urethral mucous membrane.

On account of the small size of the tumor and the absence of symptoms, the treatment recommended was simply the application of astringents.

LOUIS STARR, M. D.

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Remarks on Ostectomy.—Dr. A. Robogliaté read before the surgical section of the British Medical Association, *(Med. Jour., Nov. 24,)*, a paper upon the above subject. Twenty-eight operations were done upon thirteen patients for deformities, mainly rachitic. All were treated antiseptically. In only one case did the temperature reach 101° F. In most it did not reach 100°. Two of the patients were eight years of age, the most of the others being from fourteen to sixteen. The author calls attention that the bones were all found very hard; this condition of eburnation being well known to follow rachitic softening. It led once to an awkward accident. The osteotome slipped among the muscles and caused considerable hemorrhage at the time, but no bad consequences followed. In one case paralysis of the peroneal group of muscles followed the division of both bones of the leg. Other surgeons had met with this accident, and Kolaczek spoke of it as "transient." It was now passing off at the end of six weeks. It was attributed to injury to the external popliteal nerve.

Nine cases were operated on for genuvalgum. The earlier ones were done by MacEwen's method of section of the femur from the inner side just above the tubercle for the adductor magnus. In one case exploration with the finger after the section revealed the fact that the femur had been split into three pieces, extending down to the knee joint. No bad result followed. Since that time he had divided the tibia below the tuberosity. Though not quite so easy as section of the femur it was found to correct the deformity quite as well and avoided any tendency to open the joint. In some cases of extreme deformity section of the femur might be required in addition.

Contrary to the experience of MacEwen, he had found division of the fibula valuable in some cases of genuvalgum. He preferred an oblique section, and in an opposite direction to that of the tibia, *e. g.*, dividing the tibia upwards and outwards, he severed the fibula upwards and inwards. The cases of slight deformity he thought could be remedied by dividing the femur as high up as at the juncture of the lower and middle thirds.

L. EMMETT HOLT, M. D.

Sore Throat in Children.—Henry Ashby, M. D., M. R. C. P.,(*Practitioner, London*, *Dec.*,) mentions four principal varieties.

1. Simple tonsillitis. 2. Scarlatinal tonsillitis. 3. Pseudo-diphtheritic. 4. Diphtheria.

Weakly and scrofulous children are especially subject to the first. It is oftener seen as a complication of alimentary disorders, as those of liver and stomach, than of the respiratory tract, as bronchitis and laryngitis. It frequently precedes rheumatic attacks. It may be the result of the scarlatinal poison. In proof of this, he cites an interesting series of eight cases occurring in a hospital ward within a few days. Several nurses also took the disease. The first patient attacked, it was found, had been exposed to genuine scarlatina a few days before. None of the cases had an eruption. One, a patient in previouly bad condition, died. No insanitary conditions prevailed.

In view of the difficulty—at times the impossibility—of diagnosticating scarlet fever from simple tonsillitis, the writer recommends the isolation of all children with febrile sore throat as long as faucial congestion remains. The points in favor of scarlatina are: the presence of vomiting and diarrhœa in the stage of invasion; a pulse of 130–160; not necessarily a high temperature; marked injection of the uvula pillars of the fauces and tonsils. Later, the enlargement of the cervical lymphatics, with tenderness; the implication of the nasal mucous membrane, and a yellow exudation over the tonsils and uvula, make the diagnosis of scarlatina tolerably certain.

Under pseudo-diphtheria the writer includes a class of cases which are said to bear the same relation to diphtheria that epidemic tonsillitis bears to scarlatina. It prevails where diphtheria does, is attributed to sewer-gas and other poison. They differ from it in that the cervical glands are rarely involved, the membrane is less tough, the nasal mucous membrane unaffected, the urine does not contain albumen, the usual sequelæ of diphtheria are absent. The prognosis is always good. The duration is rarely over a week.

The sore throat of diphtheria is differentiated from anginose scarlatina, by the fact that in the latter we rarely have true membrane. A yellowish exudation may cover the tonsils, perforation and even sloughing of the palate may occur, and there may be much external cellulites, but the leathery, whitish, adherent exudation of diphtheria is absent. The amount of albumen in the urine of scarlet fever is usually slight; in diphtheria it is often fifty per cent.

The Spread of Diphtheria.—The *Med. Times and Gazette, Dec. 15* contains abstracts from several interesting reports made upon the prevalence of diphtheria in certain parts of Great Britain.

In and about Dunmon, a town of 3,000, thirty-six cases occurred within a few months, with twenty deaths. The origin of the disease was finally traced to the public school. From this most of the cases sprang directly. A stinking pond, into which a sewer emptied, was found close by. In one of the water-closets a broken earthenware siphon allowed the sewer gas to escape to such a degree that the odor was distinctly perceptible. The sewerage of the town, as a whole, was in an extremely bad condition.

The prevalence of diphtheria and scarlatina in Whitestable has been marked for the past two years. It spread especially among the school children. The careless habits of the people, as a whole, and the apathy of the school managers are blamed for the continuance of the diseases. Most of the water of the town was obtained from shallow wells; but the principal need of the place is of a properly equipped hospital to enable such cases to be isolated.

Scarlatina and diphtheria had both prevailed extensively at Belton. Most of the cases were traceable to direct contagion, there being, it seems, no attempt at isolation of cases or families. The two diseases seemed to occur interchangeably, so that the poison of one could give rise to the other. The scarlatina tended to assume more of a diphtheretic character in the houses where local insanitary conditions existed, such as untrapped drains and privies. L. EMMETT HOLT, M. D.

Purulent Pericarditis Treated by Incision. Dr. Samuel West (*Lancet, Dec. 8*) presented to the London Pathol. Society a specimen taken from a boy of fourteen. It occurred in the course of general pyemia. The patient had a severe fall, and ten days after developed an abscess in the left shoulder, which was incised and subsequently counter-opened. Some cyanosis and dyspnea were present, in addition to the fever, and evidence of pneumonia at the left base was found by physical examination. Some days later a few ounces of fluid were removed from the left pleura. A free incision, a little later, gave no fluid, but the pericardium was felt to be full by the finger inserted into the side wound. This was incised and twenty-four ounces of pus removed. Temporary relief followed, but the patient sank later, and died nine weeks from the original injury. The autopsy showed a large abscess in the left thigh; one in the ankle joint; extensive thickening of the mediastinal tissues; the left pleura divided by adhesions into three parts, each containing serous fluid; the pericardium in great part obliterated. No obstruction to any of the vessels was found. This was believed to be the third case on record in which the pericardium had been laid open for purulent effusion. The first case was by Rosenstein, of Leyden, also in a boy of fourteen; the pericardium was twice incised, and the patient recovered. The second case had been published by Dr. West. The case was one of idiopathic purulent pericarditis, in a lad of seventeen, who recovered completely in five weeks. In the case under discussion, he thought death was due to the other lesions.

L. EMMETT HOLT, M. D.

Obscure (probably) Congenital Tumors in Young Children. Two Cases.—In St. Bartholomew's Hospital, Mr. Morrant Baker (*Brit. Med. Jour., Dec. 1.)* showed a little girl of five who presented a swelling on the outer side of the left thigh, freely moveable, semi-fluctuating. It had been noticed since the child was eight months old. It was first thought to be fatty, but as it seemed to fade away under pressure, appeared to be a nevoid growth in the muscle or a cyst.

Mr. Thomas Smith thought it had developed from some fetal residue. Mr. Willett was inclined to the diagnosis given to a nevoid condition of the muscle.

Mr. Willett presented a girl three years of age, in whom there had been noticed since birth a small tumor in the right inguinal region. It had grown slowly until ten days before admission, when it rapidly increased to the size of a hen's egg. The history was not regarded as altogether trustworthy. A truss had been worn on the tumor. The increase in size had come after a severe pain referred to the foot. The lower part evidently contained fluid. It projected a little into the labium. He thought the diagnosis either displaced ovary, growth around the round ligament or accumulation of fluid in the canal of Nuck. Three other surgeons inclined to the opinion of a congenital hygroma. The tumor was tapped and an ounce of clear fluid drawn off. A large bulk of solid mass remained behind.

Further operative measures were decided to be uncalled for at present. L. EMMETT HOLT, M. D.

Cerebral Hemorrhage.—Dr. Talbot Jones *(Jour. Amer. Med. Asso., February. 23d.)* reports the following: A robust, healthy boy, ten years of age, while coasting, suddenly became faint and nauseated. He walked to his home, a few rods distant, when he complained of pain in his head and dizziness. He vomited profusely. He shortly became rigid, partially unconscious, but could be aroused only to relapse into a "soporose" state. His face was flushed, after a time cyanosed; pulse slow; respirations stertorous; reflex irritability abolished; double strabismus well marked; deglutition unaffected. After thirty-six hours he emerged from this semi-coma and was found to be right-hemiplegic, "without disorders of sensation." Strabismus as before. Right half of tongue paralyzed, but not all the muscles of the face. He was aphasic (ataxic form), being able to read and understand, but could not speak. A careful examination of the heart and other causes producing embolism failed to show any evidence in this direction. Rupture of a miliary aneurism was assumed to be the pathological condition. After five weeks the aphasia began to disappear, and in six months it had gone. At the latter time slight paralysis of the leg, and to a greater degree in the arm, remained. Choreic movements of the muscles on the paralyzed side had occurred, known as "post-hemiplegic-chorea." J. VAN VORST, JR., M. D.

A Double-headed Monster.—Prof. J. Eastman, reported by Dr. H. I. Raymond, *(Jour. Amer. Med. Asso., Jan. 26.)* A primipara, aged 19, toward the end of her gestation thought her abdomen sufficiently large to suspect twin pregnancy. An examination revealed one child, and this with difficulty made out on account of the excessive amount of liquor amnii. One week later labor began by rupture of the membranes and the escape of a bucket and a half of water. The uterine enlargement was very much diminished, but one body could be made out by external palpation and one head presented at the vagina. The head soon advanced to the perineum, the chin rotated under the symphysis and remained there, the pains becoming inefficient. At the end of three hours forceps were applied and the head delivered with great difficulty. Upon examination another head was felt, but only one body. Patient being fully chloroformed, the first head was pushed sharply over the pubes; the second head pressing on the perineum was seized by forceps and delivered. Cervix uteri intact, perineum slightly abraded. The diameter of the second head and neck of the first measured a little over six inches. Weight ten pounds. The second head had its own cervical vertebrae. There were two hearts in one pericardium; the arterial system of each communicated freely. The second head was without an esophagus. J. VAN VORST, JR., M. D.

Congenital Atresia of the Duodenal Opening of the Common Bile Duct, producing a large Abdominal Tumor. Dr. Martin Oxley (*Lancet. Dec.* 8) reports the following case:—An infant five weeks old was brought to the Liverpool Infirmary with an enormously distended abdomen. This was globular and tense; dull on percussion, except in the left lumbar region, where it was resonant. The child was much jaundiced and emaciated. The urine was bile-stained, and the stools were like white curd. The tumor had existed since birth, but of late had enlarged greatly. A canula was introduced into the upper part of the right lumbar region, and thirty-six ounces of bile flowed away in about twenty minutes. In a month it had re-accumulated, and sixteen ounces were withdrawn by the canula. Death occurred four days later. The autopsy showed a globular tumor, about the size of a cocoanut, below the free margin of the liver, adherent on its posterior surface to the peritoneum. The duodenum coursed over it and was adherent to it. Cystic and hepatic ducts were both patent, and opened into the tumor. The gall bladder was of normal size, and empty. No opening into the intestine could be found. The papilla on the mucous membrane of the duodenum was clearly visible at the usual site, but impervious. The small intestines were contracted. There was no fluid in the peritoneum, and no signs of inflammation. The other organs were healthy.

L. EMMETT HOLT, M. D.

Congenital Encephalitis.—Virchow has a communication on this subject in the Med. Press and Circular of Nov. 28. About twenty years ago he had first noticed in a series of still-born children numerous granular cells in the white substance of the hemispheres, but none in the gray. Since then they have been noticed by many observers, and by some have been regarded as depending upon the development of brain. The process he believes to be a true fat metamorphosis—the change being from healthy cells into granular cells, and finally to accumulations of fat. The cells are found in all the stages. They occur in a diffuse form when it is only recognizable by the microscope, and in opaque, yellowish patches, recognizable by the naked eye.

Of twenty-seven cases, either still-born or dying during labor, sixteen showed these appearances, and in eight they were marked. Seventeen cases that lived after birth were examined. Fourteen showed the changes, nine to a marked, and five to a slight degree. Of those who showed no changes two died of atrophy at two weeks, one of debility at five days.

He concludes that the process is not a normal one, that a comparatively large number are absolutely free from it, and even if it exists among many still-born children, it does not follow that other children must have it. Whether such encephalitis may give rise to symptoms or not he does not feel at liberty to say.

L. EMMETT HOLT, M. D.

Cystotomy for Vesical Irritation.—Dr. Rawdon reported a case, with specimen, to the Liverpool Med. Assn. (*Med. Press and Circular, Jan. 9.)* The patient, a boy of seven, was admitted to the infirmary for a painful chronic cystitis of four months duration. No cause for the cystitis was made out positively, though the meatus was small. There was no phymosis. Cystotomy was followed by relief from all the existing symptoms. The urine, however, continued pale and deficient in urea. He returned to the infirmary five months after the operation with a large lumbar abscess. This was opened, closed prematurely, re-opened and the cavity thoroughly explored, when a large quantity of pus was discharged from the kidney. Peritonitis developed and the patient died.

The autopsy showed tuberculosis of the right kidney, with a ragged abscess sac. The left was hypertrophied. The opinion was expressed that the disease might have extended from the bladder, and that the cystitis was caused primarily by the contracted meatus.

Mr. R. Harrison thought favorably of the operation of cystotomy where much annoyance was present. The relief was usually very marked.

Abdominal Tumor in a Boy of Four Years.—Mr. Skinner presented to the Sheffield Medico-Chirurgical Soc. (*Medical Press and Circular, Dec. 12,*) a patient with a tumor about the size of a fetal head in the right side of the abdomen. It had an irregular surface, was generally hard, but in some places seemed to give fluctuation. Behind it seemed to be continuous with the liver, but in front was separated from it. The tumor was of six months standing and had been accompanied by pain. About this time he had a slight fall, which was followed by hematuria and dyspnea. These recurred three months later; but again a slight fall was believed to be the cause. The symptoms disappeared in both cases quite promptly under treatment. The child's general condition was excellent. It was presented for diagnosis.

Dr. Banham thought, from the presence of fluctuation in place, that it was a hydatid growth.

Dr. Thomas thought it a renal tumor.

Mr. Knight believed it to be malignant renal disease of traumatic origin. He related some similar cases which had come under his notice.

The Spread of Scarlatina.—F. T. Bond, M. D., *(Brit. Med. Jour., Dec. 8,)* protests against the idea that the disease is propagated mainly by epithelial particles during desquamation. He does not deny its possibility of being so conveyed, but has been unable so far to find unquestionable evidence of such infection, all other sources being excluded. On the other hand abundant observation shows that the disease may be propagated from cases that have not only had no desquamation, but no rash. He insists upon the more careful attention to these cases and their complete isolation. Not to the skin, but to the throat, must we look in many cases for evidences of scarlatinal infection. Emanations from the mucuous membranes of the alimentary tract, especially from the throat, are far more important than those from the skin.

Recovery in Supposed Tuberculer Meningitis.—A case appears in the *Lancet* of Nov. 24, by W. Milligan, in which the above diagnosis was made, and the patient, a boy of three and a half, recovered. The disease began with headache, convulsions, high fever, vomiting and purging. Febrile symptoms subsided in a week and the bowels became constipated. During the third week partial paralysis of the right arm and leg was noticed. Mental irritability alternated with somnolence. He made a tardy recovery, and lost all ability to speak, having to be taught like an infant, but learned in a few months. On reading the history one will find abundant grounds for differing from the author in regard to diagnosis.

L. EMMETT HOLT, M. D.

Intussusception Successfully Treated by Inversion and Inflation.—M. G. Biggs *(Brit. Med. Jour., Nov. 24)*, reports a case occurring in a girl between three and four years of age. The symptoms were of forty-eight hours duration, and had come suddenly. They were constant constant vomiting, tenesmus, with a continuous discharge of blood and mucous, but no fecel stools. No abdominal tumor was found, but one could be felt by the rectum. There was marked prostration. Inflation of the gut with a syringe was tried, without very much apparent success. The child was then suddenly inverted and held by the heels for a moment, when the rectal tumor disappeared. The symptoms were at once relieved and did not return.

L. EMMETT HOLT, M. D.

The Value of Cod-liver Oil Inunctions, as Determined by the Increased Amount of Oil in the Feces.—Drs. N. A. Randolph and A. E. Roussel *(Phila. Med. Times, Dec. 29).* The feces of fourteen infants in fair health were examined microscopically for oil with negative results, except in one case. They were then rubbed thoroughly twice a day with cod-liver oil, care being taken to cleanse the body thoroughly "after." [before] each inunction. On the third and eleventh days of their treatment the feces were again examined, and in all but three there was a decided increase in the amount of oil. Increased weight and better condition were also noticed.

The writers suggest that the increase of the amount of fat in the feces constitutes a physiological test for the efficiency of the treatment. J. VAN VORST, JR., M. D.

Unusual Case of Cleft Palate.—An interesting case is reported by A. Ernest Maylard, which was observed in the Infirmary of Glasgow. *(Lancet, Nov. 24).* The child, a male, aged four months, was found to have, besides a left hare-lip, a division in the alveolous immediately behind it. This extended directly backward and widened into quite an interval, but did not deviate toward the median line. On the opposite of the hard palate another parallel cleft existed, exactly in a corresponding situation. The structure between the two was about one-fourth of an inch wide, and was continued into the posterior wall of the pharynx. It was bony in structure. A bony septum seemed to extend upwards from it, as a probe could not pass in one cleft and out the other, bony resistance being met. L. EMMETT HOLT, M. D.

The Incubation and Transmission of Diphtheria.—J. H. Salter *(Brit. Med. Jour., Dec. 1),* contributes some interesting facts upon this point. A farm house several hundred yards from any other dwelling, was occupied by a family composed of the parents, four children, and three female servants. There had been previous to the outbreak no communication with any house containing sickness. The locality was high and dry, and no epidemic in the surrounding neighborhood. On Oct 24th a boy of eleven was seen with well-marked diphtheria, having been unwell for two days. The next day the father and another child was attacked. On the 26th, 27th and 30th of October the servants respectively came down with the disease.

It was learned on investigation that on Oct. 19, three days before the first child showed symptoms, a woman from another village had brought back some needlework from her cottage which contained at the time two sick children, One child died somewhat suddenly from what was called "bronchitis." The other was seen by the health officer with well-marked diphtheria. There were no other cases in the district for miles around. The child who died had recently been on a visit to a distant town, where diphtheria was prevailing. The infection seems, then, to have been carried by the woman or the needle-work. She lived two miles away, and did not herself have the disease.

The author records another instance of transmission through a third party which he observed in 1875. A servant girl of a family in which diphtheria was prevailing extensively, and who had done a large share of the nursing, visited her mother's family, three miles distant, for a few days rest. Soon after this several children in the family were taken with the disease and three died. These cases formed the nucleus of a severe epidemic. The servant herself took the disease a month later.

L. EMMETT HOLT, M. D.

Chronic Otorrhea, Thrombosis of the Lateral Sinus, Septicemia and Death.—The case was under the care of Mr. Richard Williams in the Liverpool Eye and Ear Infirmary, *(Brit. Med. Jour., Nov. 24.)* The patient had had chronic otorrhea since scarlatina in infancy. She was sixteen years old and of a phthisical family. Four days before admission the discharge ceased from the left ear and great pain supervened. Congestion of the tympanum was found. The drum was found bulging and was punctured, but no pus evacuated. She died one week after this. The discharge from the ear subsequently became free. She had repeated rigors, high fever and sweats, the temperature once rising to 106.8° F. There was double optic neuritis, extreme prostration, no paralysis or convulsions, and no tenderness edema or redness over the mastoid at any time. Death occurred from exhaustion. The autopsy showed the brain and meninges to be healthy. The left lateral sinus was almost filled by a clot; a semi-purulent fluid exuded from the cut end of the jugular vein. The petrous bone was inflamed in its anterior part. The mucous membrane of the tympanum was thickened and it contained fetid pus. The *drum* membrane was destroyed; the mastoid cells carious and filled with fetid matter. A polypus about the size of a pea was found projecting into the meatus from the cavity. Evidences of septicemia were found in the lungs, liver, spleen and kidneys. Trephining the mastoid was discussed, but was decided against from the optic neuritis and the absence of local mastoid symptoms. The author was of the opinion that this operation might have saved the life of the patient. The optic neuritis he thought due to septicemia.

Sorcoma of the Superior Maxilla in a Child of Eight—Removal.—Dr. L. W. Marshall reports *(Brit. Med. Jour., Nov. 24)* a case occurring in the Nottingham Hospital. When admitted the growth was of one year's standing and had attained the size of a walnut in the right superior maxilla. There was no pain, tenderness, discoloration or adhesion to the tumor. Operation was postponed. Six months later the case returned, the growth having steadily progressed. The bicuspid and first molar teeth had fallen out and the swelling was encroaching on the mouth, nose and orbit. It was removed by Heath's incision. The orbital plate and posterior part of the maxilla were left, scraped and washed with a chloride of zinc solution, as the tumor seemed to spring from the lining membrane of the antrum.

The patient did well and was discharged from the hospital in eight weeks. At the end of a year there was no sign of return, and the patient was but slightly disfigured.

The portion removed consisted of the greater part of the maxilla and a part of the palate bones. The growth had filled the antrum; microscopically it was composed of spindle-shaped cells, connective tissue and free nuclei.

Aphasia and Right Hemaripesis in a Girl of Twelve Years.—H. Mallins, *(Lancet, Nov. 24.)* Six months before coming under observation she was noticed to drag the right leg and speak indistinctly and with a stammer. In a week she was completely aphasic, which condition lasted a month. It then passed away slowly and she was able to go to school in six weeks. Improvement, but not complete recovery, took place in the arm and leg. After two months all the symptoms returned, including complete aphasia, with considerable left frontal headache. The intellect seemed unimpaired, her vocabulary was limited to two words, "yes" and "there." No atrophy in the paralyzed muscles and no anesthesia. Electrical reactions normal. Ophthalmoscopic examination negative.

One year later no change in the symptoms, except by opthalmoscope dilatation of veins of left disc. Two years later it is noted that she had added the word "mother" to her vocabulary. All pain had long since disappeared. There was no valvular disease of the heart. The author excludes hemorrhage embolism and abscess from the case and makes a diagnosis of tumor in the left frontal lobe of the brain.

Tubercular Meningitis. Caries of the Spine.—An interesting case is reported in the *London Medical Press and Circular, November 21,* by Dr. Armand Semple. The patient was five years of age, with a tubercular family history, and died after an illness of a little over two weeks. The autopsy showed abundant exudation at the base of the brain; lateral ventricles distended with fluid; no tubercles in lungs, liver, spleen or other internal organs. On the side of the body of the seventh dorsal vertebra, a small sac of thin, cheesy pus was found. The body of the vertebra was extensively diseased, chiefly on its anterior surface. The upper epiphyseal cartilage was loosened, and the bone was carious beneath. The inter-vertebral discs above and below were present, and the adjacent vertebrae were unaffected.

We are left to infer that the bone disease was not recognized during life.

L. EMMETT HOLT, M. D.

Infantile Erysipelas.—H. C. Lawrence (*Brit. Med. Jour., Dec. 1,)* says this is not an infrequent disease. It may originate from pureperal fever or epidermic influences prevailing at the time of birth. It may be the expression of general blood infection. More frequently it is traumatic, starting especially about the umbilicus. It may come from any abraded surface as eczema, intertrigo, impetigo, cicatrizing vaccine pustules, etc. A case is mentioned in which a child, in whom vaccine scabs were separating five weeks after vaccination, was handled by a person who was recovering from an erysipelatous attack.

The next day the infant was irritable and refused food, and on the following day erysipelas began at the site of the cicatrices and spread along the arm.

In the cases there was usually severe constitutional disturbance, eanorexa and prostration. The writer advises the treatment classical among adults.

L. EMMETT HOLT, M. D.

Infantile and Hereditary Syphilis.—Dr. Otis (*Æsculapian, January)* holds that "true syphilis is never transmitted through the influence of tertiary lesions (sequelae), nor from any cause, beyond the second generation." The chief characteristic of syphilis, as distinguished from its sequelàe, is the contagious property of its lesions. Strictly speaking, there is no such thing as hereditary syphilis. Congenital syphilis is the result of contagion through the mother—such contamination of the fetus being possible only during the active stage of syphilis in the mother. The disease, by virtue of its adynamic character, vitiating the constitution of its parents, may determine different forms of mal-nutrition in children born to them after the subsidence of the disease. Bumstead and Taylor hold that syphilis is always transmitted as such, though the cachexia induced by it may predispose to scrofula, rickets, etc., *just as any adynamic disease may do.*

The course of syphilis contracted in intra-uterine life or during or shortly after birth, is similar to that in the adult, as the infection of the fetus may take place at any time in the period of gestation; the infant at birth may be suffering from the earlier or later manifestations of the disease, but true tertiary lesions (the syphilitic sequelae) are never seen. These may occur later. Among such is dactylitis, with absorption of the bony structure. Here, too, may be classed the changes in the permanent teeth and the interstitial keratitis described by Hutchinson, though proof is wanting that these are essentially syphilitic in character.

Besides infection in utero, the infant may acquire syphilis from a recent initial lesion or from mucous patches developed later, or from a nurse, or as the result of circumcision or vaccination.

At birth the syphilitic infant may present the macular, papular (including mucous patches) and pustular eruptions, various degenerations of the viscera and the early lesions of the bones and of the nails. Pemphigus is regarded by Diday and others as an indirect result of the exhaustion due to syphilis. If it be the immediate result of syphilis it is the only exception to the similarity of the eruptions at every period of life. The "old man" look, due to a species of chloro-anemia, the roseola following the same course as in the adult, the mucous patches, when in the nasal passages, causing the snuffles, when in the larynx, causing the characteristic hoarse, croupy cry, are also to be noticed. As in the adult, it is only when the roseola appears that we have the first true syphilitic manifestations. This, with mucous papule, or or other papulor eruptions, establishes the diagnosis.

If not present at birth the syphilitic symptoms usually appear between the second and sixth weeks, very rarely after the third month.

Prophylaxis demands the interdiction of marriage during the active stages of syphilis. If, after marriage, the wife becomes syphilitic, or even pregnant, without symptoms of syphilis, mercury is to be used, preferably by inunction. Mercury is also to be used in case of repeated abortions, due to an unknown cause; its efficacy is not to be considered proof that the parent is syphilitic.

For the infant the inunction method is to be used unless for very satisfactory reasons. In addition proper hygienic attention is indispensable. If inunction be impracticable, the child may be bathed twice daily in a solution of the bichloride. Internally the bichloride, 1-30, 1-20 gr., tid, or Hyd. c. Creta, gr. 1-3, 1-2 daily, or exceedingly small and frequent doses of the trituration of metallic mercury with sugar of milk may be used. The intestinal irritation caused by the internal use of mercurials renders the method vastly inferior to the external.

J. B. MCMAHON, M. D.

Tracheal Diphtheria.—Dr. J. Fewsmith, Jr., (*Amer. Jour. Obst. Dec.*) The writer, in beginning his paper, recognizes the lack of unity in naming the various forms of laryngeal stenosis, and proposes that which is the title of this paper. He presents a resumé of the different meanings of the term croup in America, England, France and Germany. In the latter country it is membranous laryngitis, in contradistinction to diphtheritic laryngitis. In France it is applied to laryngeal and tracheal diphtheria, inflammatory and false croup having other terms. In England it refers to "a literary composite of diseases pathologically different from one another." In England and Germany the best authorities consider both diphtheritic croup as but different forms of the same disease. It is evident that a more uniform use of terms should prevail.

The case in point was first seen by Dr. Fewsmith on October 27. The previous history is as follows:—Belle V. H., æt four years, a child of phthisical parents, and who had lost three other children of tubercular troubles, had had in March, along with a baby eighteen months old, scarlatina, from which both recovered. In April baby had slight croupiness, which disappeared in a few days, to return in about ten days. It grew worse, and finally died asphyxiated. Bella had always been well, except the scarlet fever, though not robust. About Oct. 1 she had a mild attack of rheumatic fever. A croupiness which had existed before the fever returned afterwards, and grew steadily worse, treatment being ineffectual, dyspnea being intense and deglutition very difficult. At this date Dr. F. came in charge. The patient was cyanotic, weak pulse, 130 temp., 98° F. There was extreme dyspnea and aphonia, but no signs of constitutional infection by diphtheria. No laryngoscope being then used, a provisional diagnosis was made of either paralysis of chords, or foreign body in larynx, possibly tubercular. October 28th, much worse and sinking; laryngoscope showed that chords were not paralyzed, and the presence of a foreign body below them. No membrane was visible. Tracheotomy was performed, with effect of relieving the girl for a time. T. 100° F. Oct. 30, T. 103° F.; p. 140. Patient coughed up a bit of membrane; has general bronchitis. The surface of a blister which had been previously applied appeared yellowish gray. The child had been sprayed with carbolic acid and lime water, with much comfort to patient. October 31. The blistered surface was covered by a diphtheritic membrane. T. 101° F.; p. 140; weaker but mind clear. Nov. 1 died. The autopsy was conducted by Drs. Ward, Ill and Corwin. Rigor mortis was marked; emaciation also. Surface of blister covered by a membrane a line thick, also the tracheal wound; the thyroid body was enlarged. No change was seen in epiglottis. The mucous membrane between the true and false chords was ulcerated. Under the mucous membrane of each false chord was a row of white indurated glistening points, the size of a mustard seed. From the rima down the tract was covered by a firm membrane, which could not be stripped.

Fewsmith now comes to the task of a diagnosis. He excludes all connection, etiologically, with either the scarlet fever or the attack of the baby. Knowing that the sub-chordal mucus membrane is loosely attached, and that when inflamed it becomes either edematous or hypertrophied, it may become an important factor in laryngeal-stenosis. He believes that both children died from laryngitis sub-chordalis acuta, and that the diphtheritic condition did not exist previous to the operation. G. K. DICKINSON, M. D.

Glioma of Pons Varolii and Medulla Oblongata Occurring in a Child of Eight Years.—Dr. G. H. Whitcomb, (*Amer. Jour. Obstet., Jan.)* Henry S., eight years of age, spare build and light complexion, and good family history, during the latter part of May exhibited internal strabismus of left eye, due to paresis of external rectus. The accommodation also was impaired. The right eye was unaffected. Sept. 6, although the strabismus remained in statu quo, the muscles of pharynx and larynx had become impaired, causing difficulty in swallowing and speaking. The paresis of the palate was symmetrical and the palate was completely anesthetic, and the vocal chords paralyzed, face slightly drawn to right when crying. Extremities were also partially paralyzed, but not anesthetic. The tongue was clean and temperature was normal. Sept. 8, case slightly worse. Sept. 10, had some gastro-intestinal disturbance. From this he continued to grow weaker, choked on eating and regurgitated fluids. Bowels and bladder sluggish; sleeps well; intelligence unimpaired. Sept. 15, cannot stand, but draws up legs. Cutaneous sensibility normal. Reflexes exaggerated. Electro muscular reaction slight to galvanic, and good to a strong faradic only. On Oct. 10 patient died from involvement of respiratory centre. The breathing preceding death was what is known as Cheyne-Stokes.

The autopsy, forty-eight hours after death, revealed nothing of importance in the gross appearance of brain. The medulla and pons were soft in their interior, sections of which were examined by Dr. W. H. Welch, who diagnosed it glioma.

The point of interest in this case is that the morbid process started at the nucleus of the 6th, and extended downward, implicating the nuclei of the 7th, 9th, 10th, 11th and 12th successively. G. K. DICKINSON, M. D.

Sudden Death in Diphtheria.—In an editorial *(Med. News, Jan. 12)*, its etiology and the means of obviating this danger are discussed. Apnea is frequently the cause of death attributed to heart failure. This may happen in several ways. Food may enter and obstruct the larynx, being improperly grasped by the paralyzed pharyngeal muscles, the entrance to the laraynx being at the same time insensitive. Food, again, may accumulate on the anterior surface of an epiglottis which has lost its muscular support, and so cause suffocation. The causes of heart-failure may be myocarditis, paresis of the cardiac motor ganglia, or, rarely, formation of heart-clot.

Cerebral hemorrhage and the so-called serous apoplexy are more frequently fatal than is generally supposed.

The prophylaxis demands care in the administration of food; the use of the feeding pump of Débove is suggested. The heart is to be strengthened by promoting digestion and assimilation. A caution is given with regard to the free use of digitalis, which by raising the vascular tension and increasing the inhibitory action of the pneumogastric, may impose a fatal burden on the heart's movements. J. B. MCMAHON, M. D.

Acute Tuberculosis in a Child of Six Months, without Tubercular Meningitis.—Dr. Allen *(Australian Med. Jour. Nov. 15,)* reports the autopsy of a case which was brought dead to the hospital. The body weighed under nine pounds. A scrofulous sore existed over the scalp. The peri and endocardium were free from tubercle. The bronchial glands of the right side were much enlarged and cheesy. A cheesy mass was found in the upper part of the right lung. The lung around this was studded with miliary tubercles. These were also found in the left lung, the pleura, the liver, kidney, spleen and omentum. No tubercles were found in the meninges of the brain and no lymph. The left optic thalamus contained a cheesy nodule a fourth of an inch in diameter.

L. EMMETT HOLT, M. D.

Diphtheria: Its Treatment.—Dr. J. N. Coons *(Med. and Surg. Rep., Jan. 19)* describes a method of managing diphtheritic patients which, he claims, has reduced the mortality to but little more than 1 per cent. in a series of many hundreds. The method is summed up by him as follows: Relieve nervous shock (by opium), clear the alimentary canal, give veratrum viride till its constitutional effect is felt in a *softening* and slowing of the pulse, give iron and the *chloride of potassium* steadily throughout the disease, adding an expectorant when needed; and most important, foment assiduously for the first few days, applying the acetate of lead freely and often to the diseased fauces. Feed liberally, stimulate and support freely with alcoholics and tonics, as the case demands.

J. B. MCMAHON, M. D.

Paralysis of Accommodation and Diplopia following Diphtheria.—Dr. E. C. Rivers (*Denver Med. Times, Jan.*) reports a case somewhat singular in the order in which the post-diphtheritic paralysis appeared. His patient presented herself with hyperopia $\frac{1}{24}$, and complete paralysis of the ciliary muscle. She had had diphtheria a month previously. Two weeks later she developed slight diplopia, and again, in a few days, she found herself unable to swallow fluids. In about six weeks from their appearance the paralysis had disappeared. Strychnia had been used. Schmeigger states: "A paralysis of the muscles of deglutition is always the first to appear; after this follows paralysis of the accommodation, and often of some of the other muscles of the eye." J. B. MCMAHON, M. D.

Erysipelas Following the Use of Chrysophanic Acid for Ringworm.—A case is reported in the *Lond. Med. Times and Gazette* for Dec. 8, occurring in the hospital service of Mr. Godlee. The child, a girl of five, was ordered on Sept. 25 an ointment of chrysophanic acid (gr. V to ℥i) for extensive tenia tonsurans. On Oct. 22 she had a bright red blush of erysipelatous character extending over forehead, cheeks and back of neck, There were no marked constitutional symptoms and no fever. It disappeared in four days and was followed by desquamation.

L. EMMETT HOLT, M. D.

Purpura Simplex.—W. Snowball, M. D. *(Australian Med. Jour., Nov. 15)*, reports three cases in children from four to seven months old. In all the purpuric spots were quite general. In one sudden abdominal enlargement took place, and this was found to depend upon enlargement of the spleen. It was explained by the supposition of a sudden hemorrhage beneath its capsule. The two other cases recovered promptly under ergot. This last one was lost sight of. All the children were females.

L. EMMETT HOLT, M. D.

Two Fatal Cases of Diabetes Mellitus in Children.—Dr. Weber Leonard, *(Amer. Jour. Obst., Jan.)* As diabetes is rare in children, the cases are of interest.

Louisa W., seven years old, through mistake, was given an overdose of bromide of potassium. After the bromism had ceased the urine was found to contain sugar, with a sp. gr. 1,030. She voided a gallon per diem. She emaciated, became anemic and the kidneys became involved, death occurring in twelve months. Autopsy showed hypertrophy of left ventricle; valves normal; liver double the normal size and fatty; left kidney a little large, cicatricial contractions in upper and lower portions; cortex fatty; right kidney reduced in size to that of large chestnut, with many retractions; cortex slight and degenerate.

Clara P., fourteen years old, had scarlatina at five and again at 13. Acute desquamative nephritis followed this last attack, which resolved. Diabetes set in and she died of phthisis after six months illness.

G. K. DICKINSON, M. D.

Vaginitis and Vulvitis in Young Children.—Dr. A. J. C. Skene (*Med. News, Jan. 12*) insists on the necessity of the utmost care and thoroughness in the local treatment of vaginitis and vulvitis in young children. Cleanliness is of the utmost importance. In vulvitis a wash of borax and water is to be used frequently, and followed by some dry powder, preferably bismuth, mixed with a little chalk.

In vaginitis, the borax solution is to be used, with the vaginal douché, and afterwards a weak solution of zinc or hydrastis canadensis. The difficulty of cleansing thoroughly all parts of the mucous membrane, on account of the rugosities, explains the obstinacy of some cases. With all this, good diet, cod liver oil and iron are generally called for. J. B. MCMAHON, M. D.

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ON SOME FORMS OF ABDOMINAL ABSCESS OCCURRING IN CHILDREN.

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The six cases of which brief abstracts are here given, illustrate a group of ailments, of which but scant notice is taken, as regards their occurrence in childhood.

The principal conditions giving rise to intra-abdominal abscess in children, are caries of the spine, chronic tuberculous disease (chiefly of the mesenteric glands), disease of the hip, innominate bones or sacro-iliac joint; perinephritic or perityphlitic suppuration, including the so-called "fecal" abscess under the latter heading. Besides these there are the rarer conditions of suppurating serous or hydatid cysts, and of empyema traveling downwards.

Superficial glandular abscesses also may protrude into the abdomen, and finally mention is made of iliac abscess originating in the cellular tissue of the iliac fossa; no explanation is to be found of the source of mischief, in the iliac abscesses, and the disease is spoken of as not very common; indeed Erichsen speaks of it as occurring only in adults.

Pollock, in Holmes' System of Surgery, describes a case exactly corresponding to Cases II and III of the present paper, but gives no clue to its causation. Bryant and others have also recorded cases of abscess following strain or injury to the psoas muscle apart from vertebral disease, while as curiosities, Holmes, Cooke and Cripps relate an instance (Mr. Howell's patient) where lumbrici were the cause of an iliac abscess through which they were discharged. Holmes, Vogel, Steiner, Forster, Henoch, Meigs and Pepper and Bouchut are not more explicit.

The common source of perityphlitic abscess is no doubt some irritation in or about the coecum or vermiform appendix such as impacted feces, ulceration, etc., and though usually the nature of the pus discharged from such abscesses shows their intimate connection with the bowel, this is not always so, possibly because, as suggested below, the abscesses are lymphatic, and not as it were direct extensions of inflammation from the intestine. Of the above mentioned causes, disease of any bone or joint may be at once excluded in all the present series; there is no evidence that any such affection existed in any of them, and the rapid recovery of all is strongly against such a supposition.

CASE I.—RIGHT ILIO-PELVIC ABSCESS.

Male, aged one year and one month, a previously healthy child, three weeks before admission "lifted its leg and cried." It was then found that the leg could not be straightened. Sixteen days later some swelling appeared. No cause for disease could be ascertained. On admission (June, 1881,) a large abscess was found pointing above Poupart's ligament on the right side; the right hip joint was quite stiff. The abscess was opened antiseptically and five ounces of sweet pus were discharged; a probe passed downwards and backward towards the pelvis. Extension was applied to the right leg, and in a little over three weeks the abscess was healed and the child was well, with nearly perfect mobility of the hip joint. There was a family history of phthisis in this case. Neither in this nor in any of the other cases was there any evidence of spinal or joint disease, sacro-iliac, hip or other joint.

CASE II.—LEFT PSOAS ABSCESS.

Male, aged five and a half years. An elder brother has had disease of the ankle. Without any known cause four days before admission (April, 1882,) the boy began to stoop in walking, and two days later complained of pain in both hips. The left thigh became drawn up, and he had pain and cried in his sleep.

On admission he lay on his left side with both knees flexed, movement of the right limb was, however, unrestrained and painless; the left thigh was kept semi-flexed and somewhat abducted, and passive movement was resisted; there was great tenderness and some increased heat around the left hip; no swelling anywhere.

Extension was applied to the left limb, which soon became straight; the pain was also relieved. Twenty-six days after his admission an abscess suddenly appeared below the anterior superior spine of the ilium. This was opened antiseptically and a drainage tube eight inches long passed readily upwards from the opening. A month later there was free mobility of the left leg, and fifteen weeks after admission he was discharged with the wound healed, free from pain or tenderness and with little or no limitation of movement.

CASE III.—LEFT ILIO-PELVIC ABSCESS.

Male, aged three and a half years. (Admitted December, 1883.) One of the family died of tuberculosis. The child had always been healthy and had had no injury except that five months before he had a fall and dislocated his jaw, but there was no suspicion of any other injury. Fourteen days before admission he walked lame, bending his body forward, resting the left hand upon the knee, and only putting the toes of the left foot to the ground. He complained of pain from the groin to the knee in the left side. No swelling had been noticed, but the child was feverish.

On admission the boy was feverish and ill; both thighs were kept flexed upon the abdomen, but the right could be fully extended, while on the left side any attempt to extend beyond about 140° produced lordosis. There was some swelling and induration above Poupart's ligament on the left side, with tenderness on pressure and doubtfully deep fluctuation; rotation movements of the hip were free and painless. Modified extension was applied. Four days later an incision was made above the outer part of Poupart's ligament, an abscess was reached which extended deeply into the pelvis, and the drainage tube passed into it could be readily felt close to the rectum. The pus was not offensive; the wound was dressed with salicylic silk, and in eighteen days was healed and the child quite well, with the limb stronger. In this case there was phimosis with adherent prepuce, and much old retained smegma.

CASE IV.—LEFT PERICOLIC (LUMBAR) ABSCESS.

Male, aged five years and eleven months, admitted January, 1884. History—Mother delicate, otherwise family history good. The boy had had scarlet fever, measles, etc., but subsequently his health had been good until the last three months, when a small abscess appeared on the scalp. This was thought to be due to an injury. Five weeks ago he complained of his left side paining him when he moved or breathed deeply; a fortnight later a swelling appeared in the left loin. For the last fortnight had passed some ascarides.

On admission, delicate boy. In the left lumbar region was an abscess extending downwards below the last rib nearly to the iliac crest. The dulness in connection with the swelling reached nearly as high as the inferior angle of the scapula.

There was some bronchitis on both sides, and a doubtful feeling of fluctuation between the swelling and the last intercostal space near the spine.

The urine was acid sp. gr. 1015, and contained a good deal of mucus and much albumen.

A week later the abscess was opened antiseptically and its cavity was felt to be irregular and sacculated, extending upwards to the eleventh rib; no bare bone and no deep channel could be felt leading from it; it was beneath the lumbar muscles. A week later the albumen had disappeared from the urine. A month afterwards a little dulness remained at the base of the left lung, and the wound was superficial and almost healed.

CASE V.—LEFT PERICOLIC ABSCESS.

Male, aged two years and five months. Admitted April, 1883. Had scarlet fever seven months ago, and has never been well since. For the last three weeks has had swelling of the left thigh and pain in the bowels, especially for the last five weeks.

On admission, there was a large abscess on the left side of the abdomen reaching past the middle line and up to the rib margins; there was considerable swelling of the thigh, the limb was flexed to a right angle and rigid. The swelling subsided, and nine days later there was a discharge of about an ounce of pus in the motions; the liver and spleen were both noted as enlarged and there was some dulness and bronchial breathing at the base of the right lung. No more pus was passed in the motions, and a day or two later there was no sign of the abdominal abscess.

CASE VI.—ABSCESS AROUND URACHUS.

Male, aged two years and two months. Admitted July, 1883. A doubtful history of phthisis in the family. A healthy child till ten days ago, when he had pain in passing urine and just before micturition. This continued until date of admission, when he complained of pain about the lower ribs and front of the abdomen, and it was found that he had only a pin-hole orifice to his prepuce. On examination further, a catheter drew off about an ounce of urine from the bladder; per rectum the bladder was felt to be empty, and a rounded tumor the size of a Tangiers orange could be felt apparently in the anterior wall of the bladder; the swelling was firm and passed down beneath the upper border of the pubes; it also reached upwards to the umbilicus in the form of a pyramid, with an enlargement at the apex corresponding to the umbilicus. There was a soft area midway between the pubes and umbilicus, and on pressing on this a little more urine flowed from the catheter. The child was circumcised (the prepuce having been slit up just before admission), and a few days afterwards the swelling was opened in the middle line close to the umbilicus and about two ounces of healthy pus escaped. On exploration the cavity of the abscess led down to the bladder, and its walls seemed to be continuous with those of the bladder, while above the cavity ended at the umbilicus. All went on well, and the child was discharged well a month later.

In considering these cases individually, it will be noticed that in I and III the abscess was pelvic or ilio-pelvic in position, and in cases III and V clearly in very close relation with the lower part of the bowels, for in V the abscess burst into the gut, and in III there was only a thin partition between the rectum and the abscess cavity. In Case IV there was positive evidence of the presence of ascarides, and in V there was a history of pain in the bowel, apparently not merely the local pain of the abscess.

In Case II the origin of the mischief seems to have been high up in the abdomen, and from the length of the cavity, and the sudden appearance of the swelling, the abscess probably descended in the sheath of the psoas. Although there is no history of any injury, the boy was old enough to be about by himself, and the most probable solution seems to be that the abscess arose from a strained psoas muscle, though it may have been glandular.

Case VI stands by itself, and there is, I think, great probability that the abscess formed around an imperfectly obliterated urachus. The contracted prepuce caused partial retention, and probably some pent-up urine entered the still pervious urachus, and set up inflammation around it. The continuity of the abscess walls with the bladder walls, its strict limitation to the median line and to the level of the umbilicus, together with the history, point to the conclusion above mentioned. The absence of any urinous contamination of the pus was due, no doubt, to the fact that there was no actual extravasation, just as peri-urethral abscesses often occur without communication with the urethra.

It is important to note that Cases I, II, III, and perhaps VI, had a tuberculous family history, while V had never fully recovered from scarlet fever, but the rapid and complete recovery of the group with a tuberculous history makes it improbable that their condition was tubercular, while the abscess in V occurred probably too late for an ordinary post-scarlatinal suppuration to appear. Still, in all there would be a lack of resistance and a tendency to suppuration.

Taking into account the frequency of sources of irritation about the bowels in poor children more especially from the presence of worms and from improper food, and bearing in mind how prone the lymphatic system of children is to suppuration, I shall interpret these cases thus:

CASE I.—An abscess around the pelvic (sacral) lymphatic glands set up by irritation in the rectum.

CASE II.—An abscess in the sheath of the psoas following strain of that muscle; this possibly may have been glandular, like Case IV.

CASE III.—A similar condition to Case I, *i. e.*, pelvic lymphadenitis; possibly here the irritation might be carried from the penis through the deep lymphatics, but this is less probable than the other view.

CASE IV.—A pericolic abscess, very likely in the lumbar glands, dependent upon the irritation of ascarides and producing albuminuria by pressure upon the kidney or renal vein.

Case V.—A similar case to Case IV.

Case VI.—A peri-urachial abscess.

It appears to me that the view that many of the abscesses are lymphatic and dependent upon bowel irritation, is more satisfactory than simply speaking of them as iliac abscesses; and further, that this explanation accords better both with what we know of abscesses in other parts of the body and with the absence of fecal odor, etc., which so commonly is present in cases where we know there is communication or very close relation with the bowels.

The only other points requiring remark are the need for careful examination to exclude bone and joint disease, and the desirability of early opening and careful antiseptic drainage of these cases; under these conditions the prospect of recovery is good

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PROOF THAT HUMAN MILK CONTAINS ONLY ABOUT ONE PER CENT. CASEIN; WITH REMARKS UPON INFANT FEEDING.

BY ARTHUR V. MEIGS, M. D.,

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You must give me your indulgence for bringing before you a subject necessarily somewhat dry in its details, but its great importance must be my justification. Nearly two years ago I had the pleasure of reading here a paper upon "Milk Analysis," when I described the method I had worked out, and briefly detailed my results. The main conclusion was that human milk never contains more than about one per cent. of casein, and this observation I then claimed to be a new one, and very important, as showing how we should feed infants so unfortunate as to be deprived of their natural sustenance. A year ago or more I delivered a lecture to the class at the Pennsylvania Hospital, which was subsequently published in the *Medical News* of November 4, 1882, in which I described a plan of feeding deduced from the results of numerous experiments and analyses. This evening I wish, first, to offer proof that the results arrived at by the method of analysis are correct, and, second, to make some suggestions about the proper method of infant feeding.

Although many chemists have made analyses of human milk, and a great variety of divergent results have been attained by different methods, there has as yet been no proof offered of the correctness of any of them. This constitutes an important missing link in any attempt to place the question of the composition of milk upon a settled basis; and if a method of analysis is ever devised that will give results which shall be universally accepted, and stand the test of time, the accuracy and correctness of the method must be susceptible of proof—simple, scientific and incontrovertible proof. Some proof of the correctness of the analyses described here two years ago will now be attempted.

No one disputes that in ether chemists have a perfect solvent for fat, which, when properly applied in milk analysis, extracts it all. The fat, when separated, can be seen, and the eye tells positively that it is fat.

With regard to the water, it is equally certain that by the evaporation process its amount can be accurately estimated. This statement is made with the knowledge that there may be with the water some slight traces of other fluids—alcohol, for instance, and perhaps other volatile liquids; but these must be in such minute quantity that they need not be taken into consideration, and for the present the liquid portion of milk may be spoken of as the water. It is equally certain that in incineration, properly performed, there exists an easy and correct method of determining the amount of inorganic matter. In the future, of course, there may be perfected some way of estimating the salts in milk, by extracting from the liquid milk, or from the solid residue left after evaporation, and this may show them to exist in larger quantity than the present method of incineration leads to believe; but the possible error introduced in this way must be very small, and does not invalidate the general facts stated. That the existing estimates of the water, fat and inorganic matter are correct, is further proved by the fact that there is no difference of opinion in regard to their amounts. Examination of the analyses of different chemists shows an almost exact uniformity of conclusion with regard to the relative quantities of the above mentioned substances.

When the estimates of the casein and sugar, however, are considered, the widest divergence of view is discovered in the conclusions as to the amounts existing in human milk. In regard to cows' milk, chemists all arrive at nearly uniform conclusions. The casein in human milk is estimated by Dolan and Wood, in one of their analyses, at 7.005 per cent., Vernois and Becquerel give it as 3.924 per cent., and Henri and Chevallier as 1.52 per cent.; while my own experiments lead me to conclude that there is about 1 per cent. Now, the fact is a striking one, that if in any of these analyses the sugar and casein amounts be added together, the sums are found to be in each instance nearly the same. The subjoined table shows this to be the case.

	Vernois and Becquerel.	Simon.	Henri and Chevallier.	Dolan and Wood.	Haidlen.	L'Heriter.	Doyere.	Clemm.	Tidy.	Meigs.	Payen.	Quevenne.	Regnault.
Casein......	3.924	3.43	1.52	7.005	3.1	1.30	.85	3.533	3.533	1.046	.215	1.05	3.9
Sugar......	4.364	4.82	6.50	1.921	4.3	7.80	7.31	4.188	4.624	7.047	8.805	7.31	4.9
Total...	8.288	8.25	8.02	8.926	7.4	9.10	8.16	7.651	8.157	8.453	9.020	8.36	8.8

The estimates of Haidlen, L' Heritier, Doyere and Clemm are taken from a table in the Physiologische Chemie of Gorup-Besanez; those of Vernois and Becquerel, Payen and Regnault, are taken from one in the Traite de Chimie Pathologique par Becquerel et Rodier; but the others are from the original sources. A complete estimate of all the constituents is not attempted in the analysis of Quevenne: and under the head which is called casein in the table is included albumen (matiere albumineuse precipitee par l'alcool); under that of sugar are included also extractive matters [lactine et matieres extractives.]

The table also shows that, in each instance where the casein amount is large, the sugar is small, and *vice versâ*—that where the casein amount is small, that of sugar is large.

It has been already said that as regards the analysis of human milk all observers are agreed as to the proportions of the water, fat, and ash; it is now further evident, from the table, that all agree as to the quantities of casein and sugar taken collectively, and that only when the separation of the two is attempted does there exist any difference of opinion. The separation of the casein from the sugar, therefore, is the difficult part of milk analysis, for in regard to this alone is there any difference of opinion. In this proportion of milk analysis then is reached the stumbling block, and it alone requires any explanation, for the rest is universally conceded, and cannot, therefore, but be considered as already placed upon a scientifically exact basis.

There are but two possible explanations of the different results arrived at by various investigators; one, that human milk is as variable a substance in regard to the amounts of casein and sugar contained, as the different analyses would lead to believe; and the other, that the methods of the majority of chemists have been faulty and their conclusions incorrect. That the second of these two explanations is the correct one, does not admit of doubt. Wanklyn says that cows' milk is a substance exhibiting great uniformity of composition, and what he says of cows' milk is also probably true of human milk. There is no reason to expect that it would vary so much in regard to the proportions of casein and sugar, when cows' milk exhibits such uniformity of composition in these respects. It may, by analogy, be fairly argued that human milk is very unlikely to be so variable as published analyses would seem to show. The proof of this, however, lies in showing, by examination a large number of specimens, that human milk always contain a large amount of sugar (say 7 per cent.), and therefore by exclusion it connot contain the great amount of casein it is usualy credited with, for all observers agree as to the sum of the amounts of two substances.

The existence of this large amount of sugar in human milk I have endeavored to demonstrate by experimenting as to how much could be obtained in the crystalline form from any fixed quantity, and then, by applying the same process to cows' milk, to find out whether an equal, or, as should be the case if my already published original analyses are correct, only a less quantity of sugar will take the crystalline form.

An experiment was made as follows: 10 c. c. of human milk, which had already, by the process described in my previous paper, been found to contain 7.224 per cent. of sugar, was, as usual, agitated with ether and alcohol, and the fat removed. After the removal of the fat the remaining portion was carefully washed into a dish, and in the water-bath, at a temperature of 70° to 80° C., evaporated until only about 10 c. c. of fluid remained; upon this was poured a mixture of 25 c. c. of water with 25 c. c. of alcohol, and the whole allowed to stand over night. By morning a precipitate had formed and settled to the bottom of the vessel; this was thrown upon a filter and washed with a mixture of equal parts of boiling alcohol and water. The filtrate was again reduced in the water-bath, at a temperature of 70° to 80° C., to about 10 c. c. and then 75 c. c. of absolute alcohol added. This caused again the formation of a slight precipitate, which was allowed to thoroughly settle to the bottom, when the perfectly clear fluid above was poured off into a dish, care being taken that none of the precipitate passed over with the clear fluid. This liquid was allowed to evaporate, without heat, in an open dish of known weight, and there remained finally, only crystalline milk-sugar, with a very minute amount of the inorganic material. The 10 c. c. of milk thus treated yielded 659 milligrammes of sugar dry at 100° C. This milk had been previously ascertained to contain 738 milligrammes of sugar to each 10 c. c., which made its percentage of sugar 7.224, as already stated. These figures are sufficiently nearly parallel to prove the point, for by the method of crystallization described, it was not expected that all the sugar present would be obtained in the crystalline form, some of it being necessarily precipitated with the casein in the course of the manipulations with alcohol; but only to obtain it pure, and in sufficient quantity, to prove that the sugar existed in the milk in the large quantity shown by the analysis, and therefore necessarily by exclusion, the existence of only the small amount of casein. The demonstration thus obtained seems incontrovertible, for when the existence of the large amount of sugar is shown, it follows as a necessary corollary that there can be only the small amount of casein, and therefore the existence of the small amount of casein in human milk is proved.

As a means of further proving that the sugar obtained by crystallization, as described, was entirely free from any traces of casein, it was tested for me by Mr. J. K. Hecker, the apothecary of the Pennsylvania Hospital, by the Nessler test described by Wanklyn and Chapman (Water Analysis, by J. Alfred Wanklyn and Ernest Theophron Chapman, London, 1876, p. 25.) This test decomposes the casein and forms ammonia from the nitrogen. When the crystalline sugar was subjected to its action, it showed it to be practically free from casein.

Cows' milk, when subjected to the same process of precipitation of the casein by alcohol, after the removal of the fat, yielded only about 4 or 5 per cent. of crystalline sugar. The manipulations were not carried out with the care that was taken when human milk was examined, for there is no dispute as to the amount of sugar in cows' milk; the experiment was therefore made merely to afford confirmatory evidence of what was shown by that upon the human milk. For if only a little more than 4 per ct. of sugar existed in human milk, as is claimed by Vernois and Becquerel, and others, and this being the quantity universally conceded to exist in cows' milk, then when both were subjected to the action of the same reagents, the same amount only of crystalline sugar should be yielded. This, however, was not the case.

One of the strongest proofs of the correctness of the estimates of fat in milk is afforded by the fact that after it has been separated, it can be seen, and the eye tells that it is fat. When sugar is crystallized, and can be seen and felt, and examined with the microscope or magnifying glass, and the characteristically shaped crystals of milk-sugar are seen, the fact that it is sugar, and nothing else, becomes self-evident.

To test still further the accuracy of the method described in my former paper upon milk analysis, I carefully analyzed a specimen of human milk and found it contained the different approximate constituents in about the usual quantities. Then I separated from a further portion of the milk, taken at the same time and under exactly parallel circumstances, fresh portions of the casein and sugar, which I gave to Mr. Hecker to test their purity; the sugar to be subjected to the Nessler test, to discover if it contained any casein, and the casein to be subjected to the action of Fehling's test, to find whether or not it was free from all traces of sugar. The casein entirely failed to produce any effect upon the copper sslution, thus showing that it was free from sugar while if a small portion of sugar was added to the solution, the characteristic reduction of the copper at once took place. When the sugar was subjected to the Nessler test, .05 grammes being introduced into the retort when the decomposing materials were ready; it almost entirely failed to react, showing no more change than would be accounted for by the distilled water which had been used to prepare the sugar. This distilled water must have contained traces of organic matter, for when it was subjected to the test it showed slight traces of ammonia. The test is so delicate, that it is only by the greatest care and nicety in preparing the materials that they can be had perfectly free from all nitrogenized materials. The conclusion was, that the sugars—both that prepared by the ordinary process advised for analytical purposes, and that obtained by crystallization—were, practically speaking, free from casein.

If, then, it has been shown that human milk contains approximately 87.1 per cent. of water, 4.2 per cent. of fat, 7.4 per cent of sugar and 0.1 per cent. of inorganic matter, the proof that it contains, not 3 or 4 per cent. of casein, as is commonly taught, but only about 1 per cent., is complete.

It may seem bold to make statements directly contradictory of the correctness of many of the usually accepted standards, but it is done with the full knowledge that it is liable to contradiction. There is an article on Infant Foods, by Prof. Albert R. Leeds, in the Transactions of the College of Physicians, third series, vol. vi, Philadelphia, 1883, in which he gives results quite different from my own; but as he gives no account of the methods he pursued, any criticism of his results is at the present time impossible.

In the endeavor to find a food which shall be the best for infants who have to be hand-fed, there are two considerations, either of which might be selected as the basis from which to start. In the first place, the desired goal might be attained by making trial of all sorts of foods, and these being put to the test of experience, the good would be retained and the bad gradually weeded out, until at last perhaps the most suitable would be found, and slowly introduced. On the other hand, the desired end might be attained by trying to produce a food which should be as nearly as possible, like what nature has provided for the infant. Many trials have been made in the past by both these methods, but to the second one justice has never been done; for, if my conclusions are correct, a proper understanding of the composition of human milk, from which to start, has been wanting.

A clear understanding being now had of its proximate constituents, and the proportions in which they exist, it is possible more intelligently to set about finding how the same elements may be had, and mixed together to make an artificial food like human milk. Cows' milk is almost universally the basis of the foods used, in this country at least.

The artificial food which I shall presently recommend is the outcome of a study of the subject from both of the standpoints suggested, and its advantages are demonstratable. Upon theoretical grounds, it is what a food for infants should be; for analysis of human milk and cows' milk has shown what is their composition, and in the artificial food the elements have been introduced in the same proportions as they exist in human milk. Experience has for many years past been tending in the direction of proving such a food to be what is needed; for while almost innumerable manufactured infant foods of every variety have been introduced, and have often for a time been thought all that could be desired, they have all, one after another, fallen into disuse and been forgotten; but the use of cows' milk continues to hold its own, and in civilized countries is employed ten times more than all the manufactured foods together. The question, however, remains of how to use it, and the various methods suggested have been almost as numerous as the physicians who have advised them. For a long time the great majority of writers upon infant diseases and diet have recommended that cows' milk should be diluted before giving it to young infants; and this, they all agree, is because it contains too much casein, which causes a curd that only infants of the strongest digestion can with safety assimilate.

The weight of testimony that cows' milk contains much more casein than human milk, is so great that it is astonishing how almost universally the analyses of human milk of Vernois and Becquerel, and of those who have arrived at like conclusions, have been accepted and given credence, in despite of the fact that the evidence of the senses of every one who has examined into the matter is diametrically opposed to such an acceptance. Although, as already said, the weight of authority has long been in favor of the use of diluted milk, still there have always been those who recommended it to be used pure. Of later years more and more has been said and written upon the advantages to be derived from the use of cream, or diluted cream. Dr. J. Forsyth Meigs, who was a well-known authority upon the complaints of children, for years used with great success a mixture of equal parts of milk, cream, lime water, and a weak arrowroot water, with a little sugar. Cream mixed with whey, to increase the sugar and lessen the amount of casein, has been recommended. Biedert (Virchow's Archiv, Band 60, 1874,) has written an article, and concludes that the best food is cream and water, one part to four, with 15 grammes of milk-sugar to the half litre of the mixture, the strength of this to be gradually increased. Biedert made many experiments comparing the relative coagulability of human and cows' milk, and again the digestibility of the coagulum; as can therefore be pre-supposed, his experiments turned mainly upon the two kinds of casein, and their differences. He concludes that "there are two important points in which human and cows' milk are unlike: first, in the different amounts of casein contained; and second, in the absolute chemical difference of the two sorts of casein. The first of these considerations would be of but little importance, however, if the analyses which place the average of casein in human milk at 4 per cent. are correct; its importance, on the other hand, would be very great if it usually contains—as I, in agreement with Vierordt's view, believe—only from 2 to 2½ per cent. I think many further analyses are necessary to establish absolutely this point. Even if this view is accepted, however, dilution of cows' milk with equal or more parts of water is not sufficient to remove the differences. It is well known that such a dilution does not remove all the disadvantages which arise in the use of cows' milk, and my clinical experience has taught me that even dilution with two parts of water does not attain the desired end; and the explanation of this positive irremovable difference is to be found in the important chemical differences which exist, the casein of cows' milk coagulating so much more easily, and the coagulum being so much more firm than is the case with the casein of human milk; and, on the other hand, the coagulum being so much more difficult of solution or digestion.

"Until we succeed in actually making the casein of cows' milk identical with that of human milk, it will be necessary to give infants only so much of it as they can digest (no matter how great the necessary dilution may be), and to make up to them with carbo-hydrates (fat and milk-sugar), the lack of albuminates in the food." He further says: "After numerous experiments I have come to the conclusion that the amount of cow casein which an infant's food should contain is 1 per cent. The fat and sugar in cows' milk appear to be as easily digested, and in nowise different from those contained in human milk. If, therefore, one-eighth of a litre of sweet cream (which, according to Hoppe, contains 9½ per cent. of fat, 3 per cent. of sugar, and 4 per cent. of casein) is diluted with three-eighths of a litre of water, which has been previously boiled, and milk-sugar is added in the proportion of 15 grammes to the half litre, the desired cream mixture is produced, and contains 1 per cent. of casein, 2.4 per cent. of fat, and 3.6 per cent. of milk-sugar, which will be found, under all circumstances, to be well borne, and is a sufficiently nourishing food." The greatest part of Biedert's admirable article consists of a detail of experiments made of treating cows' and human milk, and the caseins obtained from both sorts, with a variety of reagents, and observing the different relative effects produced. His conclusion is that "the pure casein of human milk is, in both its physical and chemical nature, different from that of cows' milk." The casein of cow's milk, when isolated, has always an acid reaction, while, on the contrary, that obtained from human milk is always alkaline. If human casein is treated in a certain way with acid, there is produced an "acid modification of human casein," which has many points of resemblance with ordinary cow casein; on the other hand, by treating cow casein with alkali, a substance is produced which shows, with many reagents, identically the same changes that are, by like treatment, produced in human milk. After careful examination of these two substances, however, Biedert concludes that "cow casein treated with alkali is, in many respects, much more like human casein than the original cow casein, yet it always shows unmistakable differences." Although he makes a strong case, and there are many reasons in favor of accepting his conclusions, yet, in the present state of knowledge of casein, the difference cannot be considered as absolutely demonstrated.

There are objections to such a belief; it has been already shown that human milk contains only one-third the amount of casein that exists in cows' milk; and there is a further important difference, which Biedert also appreciates, that human milk is always alkaline, while, on the contrary, cows' milk is acid. A coagulum, therefore, produced in a solution which is relatively so concentrated as is the case in cows' milk, and further in a fluid which is acid in reaction, is a very much denser and larger one than can be had from the relatively weak solution in human milk; and it is quite possible, therefore, that the difference may be owing to the different degrees of concentration, and the difference of the fluid media in which the casein is held; it cannot, therefore, yet be conceded that Biedert has absolutely demonstrated that the two caseins are chemically and physically different, although he has brought many strong arguments to bear. It is impossible to decide with certainty about casein in all its relations, while as yet it is not even known whether it is a simple or compound substance. Its solubility or insolubility after it has once been precipitated depends in great part upon how the original coagulation was effected, and whether or not it was thoroughly dried. If casein is once thoroughly dried for a good many hours at 100° C., it becomes absolutely insoluble in water, and will not dissolve even in a strong solution of caustic soda. Lehman (Physiological Chemistry, Cavendish Society Translation, vol i., p. 378,) says: "I believe that the jelly-like coagula of women's milk are more dependent on the alkaline state of the fluid than on any peculiarity in the casein; at all events, I have found that women's milk, when acid, yields a much thicker coagulum than when alkaline, and cows' milk, when alkaline, a much looser coaglum than when acid—facts of the highest interest and value in relation to dietetics."

Whatever may finally be decided about casein—whether those of cows' and human milk are as different as Biedert believes he has proved, or whether they are nearly alike, the difference being merely that the quantities are not the same and the containing fluid media different—what most concerns the subject in hand is the relatively small quantity which exists in human milk; for it shows conclusively that in a food for infants, the amount of casein in cows' milk must by some means be reduced to equal the amount in human milk. The correct conclusion of Biedert, that not more than 1 per cent. of cow casein should be present in a food for infants, is the more surprising as he arrives at the opinion from a totally different reason from the true one—that human milk contains only 1 per cent.

	Human (Mean composition from milk of 43 women.	Artificial Food: Cream, 10 c.c.; milk 5 c.c.; lime water, 10 c.c.; water 15 c.c.; sugar 2.2 gms. [Cream contained 12.470 per cent. of fat.)	Artificial Food: Cream, 2 tablespoonfuls; milk, 1 do; lime water, 2 do; sugar water, 3 do. (Cream contained 17.129 per cent. fat. Each tablespoonful was 20 c. c. Sugar water was 17 3-4 drachms to pint.)	Cows' Milk.	Cows' Milk.	Eagle Brand Condensed Milk.	Condensed, 1 teaspoonful [10.233 grammes] to 6 table spoonfuls 90 c. c. of water.	Cream.	Cream.
Water	87.163	88.357	87.639	88.549	87.012	27.942	92.673	79.122	79.901
Fat	4.283	3.506	4.765	3.310	4.209	10.335	1.095	13.362	12.470
Casein................	1.046	1.214	1.115	2.792	3.222	9.552	.868	2.919	2.846
Sugar................	7.407	6.669	6.264	4.898	5.000	50.861	5.206	4.140	4.308
Ash	.101	.254	.217	.451	.527	1.340	.158	.457	.475
Total	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000
Error................		.009 per cent. loss	.029 per cent. in excess.	.029 per cent. in excess.	.058 per cent. loss	.476 per cent. loss	.009 per cent. in excess.	.109 per cent. loss	.039 per cent. in excess.

Creams.	Amount of Fat in Each.
No. 1	19.020
" 2	17.507
" 3	13.362
" 4	12.470
" 5	17.129
" 6	16.024
" 7	13.825
" 8	14.950
" 9	18.082
" 10	16.502
" 11	12.159
" 12	15.611
" 13	19.071
" 14	11.782
" 15	18.519
" 16	21.465
" 17	21.290
Average from the 17......	16.398

The human milk average is the result of ten analyses made. Eight separate analyses were made of the milk of different women; on another occasion, equal quantities of milk were taken from twenty-seven (27) women, and a portion of this analyzed; on a third, equal quantities of milk were taken from eight (8) colored women, and this subjected to analysis.

Although Biedert's conclusions are very instructive, as he arrives at them from clinical experience, and surprisingly correct in many respects, he goes astray in assuming an incorrect standard of the average composition of cream. The estimate of Hoppe, which he assumes to be correct, places the amount of casein too high; for, as may be seen by a reference to my table, cows' milk and cream do not contain more casein than sugar. The usual estimates rate the casein too high, at the expense of the sugar. This being the case, and Biedert reckoning the composition of his cream mixture from this incorrect standard, and not from any analysis either of the cream or the mixture itself, as should have been done, places his fat amount too low, as only a very poor cream is so weak in fat as his standard rates it. A mixture made as he directs is far weaker in sugar than human milk, and therefore, although perhaps proper for temporary use, in cases of indigestion, cannot be accepted as a standard of what an infant food should be; and it entirely fails to accomplish what he says should be done—make up to the infant by an excess of carbo-hydrates the lack of albuminates which exists in the food—for it only contains about half as much sugar as exists in human milk.

All these facts show that the tendency has been constantly toward the truth, and that physicians have been learning empirically for what reasons cows' milk has failed as an infant food, and how the difficulties which its use entailed were to be overcome. The use of cream has been advised; cream and whey; diluted milk; diluted milk with milk-sugar; cream, milk, lime water and arrowroot water; and finally comes Biedert's cream mixture, and he arrives more nearly at the true solution of the difficulty than any of the others, but still falls wide of the mark, from want of a precise knowledge of the composition of human milk, and of cows' milk and cream.

Investigators have thus, year by year, and step by step, been approaching the desired goal, and it needed but a touch for light to be let in upon the whole subject. Many hours and much careful and patient labor have been expended in investigations in this field, and no single worker could have done his part without having the results of the labors of his predecessors before him, to guide him a long way in the field, and give him easily the knowledge which would enable him, after much toil and trouble, to advance one little step more towards what was previously unknown. Thus, no individual investigator, no matter how important the advance in knowledge he may have made, should assume too large a share of credit; for it can be but a very small part of the great whole, and would be valueless but for the rest, into which it fits, and completes that which would otherwise be useless.

The necessary data being now at hand, it is comparatively easy to construct a food which shall, at least, be more nearly what is needed than any previous one. In making such a food, there are two matters to be considered: the proximate constituents must be in the same relative proportions as they are found in human milk, and they must be in a medium which shall be, as human milk is, alkaline. This latter end is easily accomplished by the use of a due amount of lime-water, and is justified by the fact that it is a matter of experience, almost universally acknowledged as true, that it is a most useful adjunct, rendering cows' milk more easy of digestion by the human stomach. The quantity of lime-water to be used should be one-fourth of the total by measure. This may seem to many persons an excessive quantity, but when it is understood that if made as ordinarily directed, by agitating water with lime and then filtering, it contains only two decigrammes of lime in each litre, it becomes plain that the use of lime-water means the administration of a great deal of water and very little solid matter. The above estimate was arrived at by direct experiment; 10 c. c. of freshly made, filtered lime-water, being evaporated, was found to yield 2 milligrammes of lime. This is a very large estimate of the amount of lime soluble in water, as may be seen by reference to the U. S. Dispensatory, or the National Dispensatory, both giving it as much less. That the use of lime-water (alkali) in an infant food makes a difference in its behavior with some reagents is shown by the following experiments. A food was made in the proportions which will presently be given, and 10 c. c. of it agitated with ether and alcohol, as directed in my previous paper read before the Society, for the extraction of the fat; it was found that the coagulation took place in the form of a fine network, which remained permanently distributed through the lower stratum of the liquid, no sediment forming at the bottom. When an exactly similar mixture was made, except that the lime-water was replaced with water, leaving the fluid acid, and this agitated with ether and alcohol, thick, heavy curds formed, which at once sank to the bottom. Again, when two mixtures—one with and the other without lime-water—were treated with 10 drops of acetic acid, the one without lime-water showed much larger, heavier coagula than that which contained lime-water. These experiments show with certainty that the addition of lime-water does alter the coagulability of the casein when experimented with, whatever may take place in the stomach; and I have already quoted Lehman's opinion that the acidity or alkalinity of milk makes a difference in the formation of the coagulum. Whatever may be the value of these artificial experiments, the great reason for the use of lime-water is that the experience of man has found it good, and that is sufficient reason for its use in the present state of knowledge. It is quite possible that in the future something better may be found—phosphate of lime perhaps, for it is the salt which exists in milk in larger quantity than any other; but further and exhaustive study of the inorganic constituents of both human and cows' milk will be required to place this matter upon an exact scientific basis. It is very desirable that further study of the salts of milk should be prosecuted, and it is much to be hoped that in the near future exhaustive analyses will be made. The amount of inorganic matter in cows' milk is so much greater than that in human milk that, as there is at present no means of removing it without altering or destroying the other component parts, no infant food can be made exactly like human milk in respect to the amount of salts contained.

So far as bringing the other proximate constituents to like proportions with those in human milk, the first step must be to so dilute with water as to get the desired quantity of casein; the fat and sugar can be increased by the use of the necessary quantities of cream and commercial milk-sugar. Taking the averages of cream and good city milk as already given (see table), it will be found by calculation that if there be mixed together 10 c. c. of cream, 5 c. c. of milk, 10 c. c. of lime-water, and 15 c. c. of water, with 2.2 grammes of milk-sugar, the desired mixture is had. That this is the case should not be trusted to mere calculation, but an analysis of the mixture should be made, both to verify the calculation and to observe how the mixture behaves when subjected to the analytic processes, whether it in its reactions more closely resembles cows' milk, with which it is made, or human milk. The table shows the results obtained by such analyses.

The easiest way to prepare and use the food is as follows: there must be obtained from a reliable druggist packages of pure milk-sugar containing seventeen and three-quarter ($17\frac{3}{4}$) drachms each. The contents of one package is to be dissolved in a pint of hot water, and it is best to have a bottle which will contain just one pint, as there is then no need for further measuring. The contents of one of the sugar packages is put into the bottle, and when filled with hot water the sugar soon dissolves, and it is ready for use. The dry sugar keeps indefinitely but after it is once dissolved it sours if kept more than a day or two in warm weather; it is understood, therefore, that the sugar-water must be kept in a cool place, and if it should at any time become sour, as is easily discovered if it is smelled and tasted, it should be thrown out, and after the bottle has been carefully washed with boiling water, the contents of a fresh package dissolved. A milkman must be found who will serve every day fresh, good milk and cream. By good milk is meant ordinary milk, such as is easily procured in most cities, and not rich Jersey milk; and in the same way the cream should be such as is ordinarily used in tea and coffee, and not the very rich cream of fancy cattle. The reason that ordinary milk and cream are recommended, is because they are within the reach of almost every one, and not because they are any better than the rich milk of high-bred stock. If Jersey milk was to be used, it would be necessary to analyze specimens, and then make the necessary calculations as to how to dilute it to obtain the desired relative proportions of the proximate principles. When the child is to be fed, the nurse should mix together two (2) tablespoonfuls of cream, one (1) of milk, two (2) of lime water, and three (3) of the sugar-water, and then as soon as the mixture has been warmed it may be poured into the bottle and the food is ready for use. If the infant is healthy, this quantity will not satisfy it after the first few weeks, and then double the quantity must be prepared for each feeding. Twice as many tablespoonfuls of each of the ingredients must be mixed together, making sixteen tablespoonfuls (about half a pint) in all.

This food should not be given any stronger until the child is eight or nine months old, at least, but if the infant is a healthy one, it may take as much of it as it wants, but always of the same strength. A robust infant will often take three pints, or even more, in each twenty-four hours. It is an easy matter for any one to learn how to make the lime water; and it is advisable to have it made at home, for a greal deal is used, and if it is made at home much trouble and expense are saved.

With regard to the propriety of increasing, from week to week, the strength of any artificial food given to infants, there has been some question. Most authorities have advised that the foods should be increased in concentration until finally the infant is given pure cows' milk. The propriety of this procedure, during the earlier months of life, at any rate, is very doubtful. Although there is some reason to believe that the quantity of solid ingredients in human milk increases from month to month as lactation goes on, such an opinion should be accepted only with great caution, for it seems likely that if there is any increase in the concentration of the milk after the colostrum has once disappeared, and the nursing process has settled down into its even course, the increase is so slight that it may be disregarded. Analyses show that the milk of a woman whose child is two months old does not differ materially from that of one whose child is twelve or fifteen months old. If, then, nature has made no difference which our means of analysis will detect, between the milk of a woman who has been nursing two months and one who has nursed twelve, an artificial food which has been found to suit an infant of two months, should be made more concentrated only very gradually, and with careful observation of the effect upon the health of the infant. It is best, therefore, if the infant thrives and grows as it should, not to make any change in the food until after six to nine months of age have been attained.

With regard to the use of condensed milk as a food for young infants, I can only repeat what I said in my former paper, that I cannot believe that any article which has been canned, and kept for weeks or months, or perhaps still longer, can be so good as the same thing when fresh. My table of analysis shows the composition of the dilution of condensed milk commonly used in this city, and it shows that the proportion of fat is much too small, and for this reason, partly at least, it fails as a food. Its success is due to the fact that it contains nearly the same proportions of casein and sugar as exist in human milk. Dr. Ellwood Wilson is in the habit of directing that after the first few weeks a small proportion of fresh cream be added to the condensed milk, and this would render it still more nearly what is needed; this practice, which cannot be too much commended, if condensed milk is used, is not, however, at all a common one. Withal, I am unable to believe that condensed can be as good as fresh milk, if properly used. There are many other points of great interest connected with this subject, which I should have liked to bring to your attention, but my paper has been already much too long.

DISCUSSION ON COMPOSITION OF MILK, AND INFANT FEEDING.

The President called attention to the following points for discussion:

1. Any method of analysis which is to be generally accepted must be susceptible of verification.

2. All previous analysis agree about the amounts of water, fat and ash; therefore, about the amounts of casein and sugar alone is there any disagreement.

3. Further, all agree about the sum of the amounts of these two elements (casein and sugar), but diverge widely about their individual amounts.

4. If it has been proved that, collectively, casein and sugar amount to about 8 per cent., and that the sugar is about 7 per cent., it then follows that the casein is only 1 per cent.

5. When subjected to the same method of analysis, human milk yields nearly 7 per cent. of crystalline sugar, and cows' milk about 4 per cent.

6. To be able to make a proper food for infants, we must first understand the composition of their natural food—human milk.

7. Is there any great and important difference between the casein of human milk and that of cows' milk, except that it is contained in the latter in a larger proportion?

8. In preparing cows' milk for infants, clinicians usually direct that it be diluted, and some sugar and lime-water added; but more precision of advice is needed.

9. What is the best method of making an artificial food like human milk?

10. What is the propriety of increasing the nutritive quality of the food from month to month, as the child grows older?

11. What can be said of condensed milk as a diet for infants?

Dr. J. Cheston Morris, in opening the discussion at the request of the Chair, said: It gives me great pleasure to pay my tribute of respect to the accuracy and industry which Dr. Meigs has so evidently exhibited in his investigations, though they have led him to very different results from my own. Accurate analysis, even of inorganic bodies, is difficult, as many of us know who have tried it; but accurate analysis of inorganic mixtures is far more so, from the changes continually going on in them.

A perfect method of milk analysis is probably not yet attained. (Dr. Meigs having replied to a question from Dr. Morris, that he obtained the amount of fat present by repeated washings of the milk with ether and alcohol, Dr. Morris resumed:) The extraction of all the fat present is difficult, owing to the globules being surrounded by a thin membrane of casein; this has been proved by Mitscherlich, who advises the previous agitation of the milk with a small quantity of solution of caustic potash, when the ether immediately dissolves out the fat. Perhaps the best process yet devised is that of the Society of Public Analysts of Great Britain, given at length in various numbers of the *Analyst.*

The amount of water present in normal milk does not vary very much, nor does that of ash; but judging from the report of over 12,000 analyses, made by Dr. Viette for the Aylesbury Dairy Company of London, that of the fat in cows' milk does vary from 3 per cent. to between 5 and 6 per cent. Any result less than 3 per cent. is regarded as proof of adulteration. So far is the amount of water, ash and fat, from being regarded as agreed upon among analysts, that the problem with them generally has been to obtain a method which would enable them readily to ascertain this latter factor; and Mr. Hehner has constructed, as a means to detect adulteration, a table showing the relation between the specific gravity and the fat present, the solids *not* fat (*i. e.* casein and sugar) being taken as constants. To what extent these are really so may be judged from the analyses of Dr. Viette, above quoted, showing a maximum of 10.31 per cent. and a minimum of 8.97 per cent. in over 12,000 analyses. The total average is about 9.5 per cent. in cows' milk. But all cows' milk is not alike; that from different breeds has marked peculiarities and differences, perceptible even to the eye and the taste. The milk from the Jersey cow is rich in fat, but poor in casein and sugar; that from the Durham is comparatively watery, and poor in fat and sugar, though relatively rich in casein; that of the Devon is nearly as rich in fat as that of the Jersey, and in casein as the Durham, and richer in sugar than either of them. The commercial uses of these breeds in butter and cheese making bear out the above statements.

Another reason for thinking that 1 per cent. is too low an estimate of the amount of casein in human milk, is that such a proportion would hardly supply the needed amount of nitrogenous food to the infant. Lehmann tells us that the amount of milk secreted daily by the human female may be estimated at 2.2 per cent. of her weight; so that a woman of 150 pounds would produce 3.3 pounds milk, or 23,100 grains—rather more than a quart and a gill. If only 1 per cent. of this is casein, it would give only 231 grains; if she weighed only 120 pounds, there would be only 2.64 pounds milk, of which only 185 grains would be nitrogenous. Authorities on diet tell us that the human being requires food amounting to one-twenty-fourth to one-twentieth of his weight, of which one-fifth, or 1 per cent. of the whole, should be nitrogenous. Applying this rule to the infant, which has certainly larger needs for food for developement, a weight of 10 pounds, or 70,000 grains, would require 700 grains of nitrogenous food—a figure nearly approximating that which would be yielded by a milk containing 3 per cent. of casein. In colostrum, however, we have a fluid poor in casein, but rich in sugar and fat.

Casein and sugar, we are told by Lehmann, are both soluble to some extent in alcohol. I have studied the question of the identity of casein of cows' and human milk without being able fully to satisfy myself, but am inclined to regard them as differing mainly in coagulability. This may depend on the salts with which they are associated, as may also the acidity or alkalinity of the milk. These salts have, relatively to the serum of the blood, a preponderance of phosphates and potassium salts to the chlorides and sodium salts; and the acidity or alkalinity of cows' milk is influenced by their food. As a rule, I believe it is alkaline.

I am in the habit of directing, as food for new-born infants, a mixture resembling colostrum—one part cows' milk to two or three of water, with a little sugar, for infants of two to six months; equal parts of milk and water, warmed and sweetened, for infants over six months; two parts milk and one of water, etc. As to quantity and frequency, much must depend on the child.

DR. PARISH: I cannot pass judgment upon the chemical question, but the matter of substitutes for human milk is one that I am brought face to face with every day in private practice, and in public institutions. I have had but little successful results with any of the prepared foods in the market, except condensed milk. I have frequently been called to see infants who have been seriously sickened by the use of such foods, or by other ill-advised articles of infant diet.

If I have care of a child from birth, who is to be brought up without human milk, I begin with condensed milk; during the first few days I direct that one heaped teaspoonful should be dissolved in thirty teaspoonsful of water; about the end of the first week one teaspoonful of the milk in twenty-five of water; at the end of a month one teaspoonful in twenty of water; at about the end of the second month I have added one-fourth cream; at the eighth month a change is made to cows' milk, diluted with one-third water, with occasional use of beef-tea, etc., according to the age.

I do not think a child using condensed milk for sixteen or eighteen months continues to thrive so well as if the method stated is resorted to. Cows' milk is unsafe for young infants in the cities.

The addition of cream is advantageous by overcoming constipation accompanying the use of condensed milk, and by contributing very perceptibly to the nutrition of the infant.

If a child, dependent chiefly on cows' milk, is taken sick, with bronchitis or any febrile disease, or with any digestive derangement, I recur to condensed milk as a sick diet.

Dr. MEIGS, in closing the discussion, said: I do not see that anything has been said to disprove what I have advanced, which was, substantially, that if analysis shows the water, fat, sugar, and salts of milk to equal a certain amount, then the casein can only equal the difference between that amount and the total quantity of milk taken. We know what these four substances are, and can identify and estimate them. What casein is, however, is not yet fully understood, but we cannot escape from the conclusion as to its small amount in human milk, unless the process of analysis be shown to be erroneous in regard to some one of the other four constituents. I have noticed, incidentally, that the clear ethereal solution of the fat of milk sometimes lets fall a precipitate after standing. This I at first thought to be casein, but as it melted when warmed, it must be some one of the forms of fat, but is insoluble in ether.

I do not think that the specific gravity is any guide as to the composition of milk. Mr. Wanklyn has shown its utter unreliability; nor do I think that we can distinguish the different amounts of sugar or casein in milk by the difference of taste or amount of coagulum. Milk-sugar has very little sweetish taste. The composition of milk is tolerably constant; it is not subject to such large variation within normal limits as urine is. Milk does vary much in its amount of fat. That first drawn from a woman who has not nursed her child for some hours will usually contain only 2 or 3 per cent. of fat, while that taken just after nursing may contain 9 per cent.

As regards the amount secreted by women, very absurd statements—much below the proper figure—have been made by some of the older authorities, but Dr. John F. Meigs succeeded in one case in getting as much as three pints in twenty-four hours.

The salt which exists in largest quantity in milk is sodium phosphate. Cows' milk is almost always acid, while human milk is almost always alkaline in reaction.

Most authorities agree that cows' milk must be diluted when used for infants. Why is this, if not because the casein is less in human milk?

I agree with Dr. Parish that most of the prepared foods are not good. Condensed milk is largely used by physicians in this city, and I believe its success is due to the fact that it gives only about 1 per cent. of casein as usually directed to be given. Condensed milk contains about 50 per cent. sugar. It is not unlikely that some of the milk-sugar is removed from it. Milk-sugar and casein are entirely insoluble in absolute alcohol, and alcohol will only take up very small quantities of milk-sugar as it becomes diluted, and only when it is very dilute will it take up any considerable amount.

My effort has been to place the demonstration of the amounts of the different constituents of human milk, so far as possible, upon a mathematical basis; and unless it can be shown that the estimates of some one of the four constituents—water, fat, sugar, or salts—is wrong, then it has been proved that human milk contains only the small amount of casein stated.

Clinical Lectures.

DIARRHŒA IN CHILDREN.

A Clinical Lecture at the Jefferson Medical College Hospital.

BY THEOPHILUS PARVIN, M.D.,

Professor of Obstetrics and of Diseases of Women and Children in Jefferson Medical College. Reported by William H. Morrison, M.D.

Gentlemen—The two cases first presented this morning illustrate a common affection, one that you will be often called to treat, diarrhœa in infants, and in children after the usual time of weaning. Here is an infant six months old, pale, its face showing that it suffers, and while the child is not positively emaciated it is far from being as plump and well nourished as it should be. It is now six months old; its mother died but a week or two after its birth, and since then it has been cared for by its grandmother, who brings it here. It has been brought up solely upon artificial food. Various kinds of food have been tried, and condensed milk finally adopted as apparently the least injurious. Yet the condensed milk is far from being a good food in this case, since the child has at least twelve operations from the bowels every twenty-four hours, and moreover the operations cause a great deal of straining and pain; further, the grandmother tells us that after the straining a reddish lump appears; that is a prolapse of the rectum, or rather of its mucus membrane, an affection which is not uncommon, while the former is exceedingly rare. The stools are not peculiarly offensive in odor, contain no blood, slime or mucus, and in color they are yellowish and green. Further, an examination of the buttocks and groins shows a violent erythema occupies these parts. The grandmother tells us that this has been present since the child was three weeks old, and every time the child urinates or has a stool it cries with the suffering caused by the contact of these discharges with the raw inflamed surfaces.

You at once see that neither as to frequency nor as to color are the discharges from the bowels normal; such discharges should not occur oftener than two or three times in the twenty-four hours, and they ought to be of a light yellow color. Let me urge upon you the importance in treating these diarrhœal affections of children of knowing not only the actual number of discharges in a day, but also of seeing for yourselves, observing their quantity, consistence and color.

Now, in the treatment of this patient, the first thing is a complete change of diet; let the condensed milk be abandoned, and let the child have instead cow's milk, diluted with one-third or an equal quantity of gum arabic water, gelatine water, or albumen water; when the diarrhœa is better, barley water may be used for the diluent. As I have had occasion to say to you before, to dilute cow's milk with water is one of the worst of practices in infant-feeding, for by such great reduction of the nutritive properties of the milk, a double quantity of fluid must be taken, and thus indigestion from overloading the stomach or from too frequent feeding. Let me say still further as to artificial food for infants: It is impossible to say in a given case that one, or that another, kind of food will prove best; have as admirable theories as you please in the selection and combination of ingredients; the final test is in experiment, and the experiment sometimes sets at naught the wisest, most scientific theories. Therefore, when you are directing the sort of diet an infant is to have, you are simply trying an experiment, and if the experiment is a failure don't persevere in it—do not try vainly to compel facts to correspond with your theories, but yield obedience to the facts, and try another experiment.) Th. Parvin M.D. in Arch. Pediat.

Now, as to the nature of the diarrhœa, it is simply an intestinal catarrh, not an inflammation, from which this child is suffering; its chief, if not the sole cause, is the food that is given—not that such food may not prove best in some other children, but that it does not agree with this child, and food appropriate to its wants will improve, if not cure, the diarrhœa. The stools when first passed, you remember, are partly green, and in the medicinal treatment of such a case it is well to include some antacid; if the stools become green after exposure to the air, no such indication in the treatment would be presented. I think it will be well for the first few days to give this infant an occasional dose of subnitrate of bismuth, prepared chalk, and opium—about the thirtieth of a grain of the last, and two or three grains of each of the other ingredients. What shall be done for the erythema? Perfect cleanliness of the parts is of first importance, soiled napkins to be promptly removed, and none but perfectly clean ones applied in their place; then careful bathing and drying, after which thoroughly dust the surface with lycopodium; do not use starch for this purpose, as it is liable to form, with the moisture that exudes from raw surfaces, hardened masses and cakes, which are irritating, and are not easily removed; but if you choose you may mix the lycopodium with an equal quantity of oxide of zinc; sometimes, by the way, an ointment of oxide of zinc proves better than any powder, applied to the surface. What is to be done for the rectal prolapse? With less frequent operations the liability to this accident is lessened; but when it occurs, let the tumor be bathed with cold water, and immediately replaced, and then have the child kept upon its back, if possible for a short time, the thighs being kept close together. In case of paralysis of the anal sphincter, cold astringent injections will prove useful, and its persistence in spite of these may be met by injections of warm water containing one drop of tincture of nux vomica and five drops of the fluid extract of ergot, one or two each day. A recent and very good recommendation for the tenesmus that frequently is a prominent symptom in this rectal prolapse, made by Dr. Droixhe—*Journal D'Accouchments*, January, 1884,—is the introduction of a suppository composed of iodoform.

The second child now presented to you is twenty-three months old, and since it was fifteen months old it has been taking, according to its mother's statement, "table-food," and that means that it has been taking a great deal that it ought not to have had. You will so often, when asking after the diet of even a younger child, have the answer, "Pretty much everything that is going," that one wonders not that so many infants die, but that so many live, when parents set them to digging their graves with their teeth, sometimes indeed with their gums. You may judge that there is not the most remarkable wisdom manifested in feeding this child, for it can neither be charmed into silence by your faces or by my speech, but it is by munching a piece of pie, an article of food which is often to be credited with causing indigestion in adult stomachs, and which few men and women can eat with freedom and impunity. For two months the child has had diarrhœa, the evacuations sometimes being as frequent as eighteen in twenty-four hours; these are of a brownish color, contain no hard lumps, nor mucus or blood, and there is no prolapse of the bowel resulting from them. Further, this child has had fever occurring every other night, and for this quinine has been successfully given. There is a history of tuberculous disease in some of the near relatives, though not in any of the immediate ancestors. One of these relatives was brought to the dispensary suffering, it was thought, with entero-mesenteric tuberculosis, and therefore there is more anxiety as to this child.

The child's complexion is not clear, but that may be attributed to the malarial poisoning; its countenance does not show the suffering which is often a marked characteristic of chronic tuberculous disease; nor are the discharges from the bowels such as occur in this disease; they are not yellow or grayish fluids, mixed with lumpy masses and portions of undigested food. The conclusive evidence of tuberculous enteritis would be detected by the touch of the enlarged mesenteric glands; the point where you seek these is in the middle of the abdomen and below the umbilicus. Bouchut has called attention to the fact that fecal masses, scybala, may be mistaken for enlarged mesenteric glands, but the former are found at the sides, especially at the sigmoid flexure, while the latter have, as before stated, a median position.

In the treatment of this patient the first thing is to insist upon no more solid food, especially pie, being permitted. Let the child have a liquid diet such as milk and the lighter animal broths, a daily bath and protection from cold by suitable clothing, and avoidance of exposure will be directed. The quinine will be continued to guard against a return of the malarial attacks, and also as a useful tonic, and for the diarrhœa the officinal chalk mixture in a dessert-spoonful dose, a little tincture of krameria and the camphorated tincture of opium being added to each dose, will be directed.

BACKWARD TRACTION IN THE TREATMENT OF CARIES OF THE SPINE.

A CLINICAL LECTURE BEFORE THE DISTRICT MEDICAL SOCIETY FOR THE COUNTY OF HUDSON, JERSEY CITY.

BY CHAS. F. STILLMAN, M. D., OF NEW YORK.

Dr. Stillman prefaced his lecture by remarking that all the methods of mechanical treatment in caries of the spine were based upon three established principles, viz.: First—Simple *Fixation*. Second—Symmetrical Traction (vertical and horizontal), and Third—Backward Traction. The appliances of the first class (Fixation), attempted to enforce rest to the spine by enclosing the trunk in splints of leather or other firm material, or by long steel strips placed upon either side of the spine posteriorly, and held there by girths and buckled straps. This method opposed the material strength of the splint to the flexibility of the spinal column, and if sufficiently strong, would hold the spine firmly, but did not attempt to remedy deformity or produce extension of the diseased part. Charts were exhibited, illustrating the splint constructed upon this plan.

The appliances of the second class (*Symmetrical Traction*, i.e., Traction exerted upon the spine, so as to make extension of all parts alike, differing in this respect from *Backward Traction*, which produces extension of the anterior columns only) were also exhibited.

He stated that Symmetrical Traction in caries of the spine was exerted in two directions, viz.: First—Horizontal, which is the principal underlying the various Traction beds and frames which were formerly used and are now almost entirely discarded, and second—Vertical. The latter is the principle upon which the practice of suspension is founded, and it is the practice to enclose the body in a plaster jacket (Sayre) while suspended, in order to imprison and secure the amount of extension thus produced, but the doctor maintained that the extension produced by the suspension was lost when the suspension ceased, because the spine being flexible was not embraced throughout sufficient of its extent unless a jury mast were added to the jacket, in which case, whatever extension was produced by the suspension would be held by the splint.

If the jury mast were not used the plaster jacket becomes a fixation splint, but is more effective than the splints of the Fixation class, because it holds the spine in the improved curves, which were produced by the suspension.

There is, however, no possibility of adjustment or reduction of deformity unless the splint be removed and re-applied. He also stated that symmetrical traction might be extended *locally* by dividing the jacket and connecting the segments by rachets; but the use of such forms of apparatus was necessarily restricted to the lumbar portion of the spine. The consideration of the *third* principle of mechanical treatment, viz.: *Backward Traction*, occupied the main portion of the lecture and was fully illustrated by patients, apparatus and charts. The origin of the principle, which consists in curving the spine slightly backward, so that the bodies of the vertebra are relieved from superincumbent weight, which is transferred to the posterior processes, was ascribed to Dr. H. G. Davis, although the first effective instrument for utilizing the principle was devised by Dr. C. F. Taylor.

A later instrument for the same purpose was invented and used by Mr. Chance, of London, and has been lately much advocated by E. Noble Smith. In all of these instruments the bending point of the spine, if the patient leans forward, was at the seat of disease, so that it requires great strength on the part of the apparatus to successfully oppose this.

Dr. Stillman advocates a new form of lever brace which completely overcomes this tendency. If the disease be in the dorsal region, the short arm of the lever extends from the site of the disease to the sacrum, and the long arm from the neck to the sacrum, the two being connected at the sacrum by an adjustable clamp and together forming a **V**-shaped lever, which acts automatically to press out the deformity and yet holds the child back in the erect position. The force is so graduated that if leaning forward be attempted, the shorter arms press firmly over the transverse processes adjacent to the knuckle, and exerts a forward pressure which prevents the spine yielding at the seat of the disease. In no other brace known is this accomplished, and it therefore secures a much greater degree of fixation than either of the braces or splints already referred to. If the *lumbar* region be involved, the short arm of the lever passes from the diseased part to the second dorsal vertebra, and the long arm from the sacrum to the second dorsal vertebra. They are secured together by adjustable clamps at this point, and connected to the trunk by a **T** plate in front, which allows it to be tightly strapped to the part without exerting injurious pressure upon the arms or chest. The infra-clavicular spaces and the sternum being by this method utilized as pressure points. The splints formed upon this lever plan give *fixation, backward traction*, and *forward pressure* at the seat of disease, which are the three indications necessary to success in the mechanical treatment, and when applied to a patient (several being exhibited) the effects of the brace could not be altered by the position of the patient, as the peculiar action of the lever was compensatory.

The principle was illustrated by placing a patient with a well-marked dorsal kyphos face upwards upon a padded table, so that the edge of the table pressed upon the transverse processes of the kyphos, the head and upper extremities being allowed to hang over the edge. In this manner backward traction was induced, which caused extension at the seat of disease, and the table pressing upon the kyphos at the same time, the result was seen in a diminution of the knuckle angle, the result attained by the brace, which is founded upon the physiological principles demonstrated by this method.

The superincumbent weight, which causes the knuckle to form, is thus used as a traction agent for reduction, and corresponds to the long arm of the lever; while the forward pressure of the table corresponds to the short arm of the lever, the power of the brace depending upon the angle which these arms of the lever are attached to each other, so that its effect may be varied from that of a simple fixation brace of the first class to a lever brace of any desired power.

Clinical Memoranda.

A CASE OF NEPHRITIS AFTER AN ATTACK OF VARICELLA.

BY GEO. W. RACHEL, M. D.

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In No. 2 of the *Berliner Klin-Wochenschr* (1884) Prof. E. Henoch reports four cases of "albuminuria as a sequela of varicella." The ages of the children thus attacked were from two to ten years, and with the exception of the youngest, where there was a complication of congenital syphilis, they recovered. The period within which the nephritic symptoms were developed varied from a week to a fortnight, and recovery took place from fifteen to thirty-two days later.

The reading of this highly interesting discovery reminded me of a case which had been presented at my division some months previously.

A child, three and a-half years old, was brought to me with *swollen feet and edema faciei;* the mother stated that about ten days ago the child had been feverish and restless for about thirty-six hours, until an eruption of *varicella* appeared on the child's face, neck, arms, and upper part of the body. The symptoms then abated, and the eruption ran its usual course. A few marks were still visible about the forehead and hands, where the pigment had not yet entirely disappeared. Although the mother was positive that there was no other eruption, no general redness of the skin, etc., and although I could not, on close inspection of the roots of the nails on hands and feet, discover any signs of desquamation, I believed myself justified in diagnosing the case to be one of *nephritis e scarlatina,* following a *scarlatina levis.*

The urine was found to be moderately albuminous, and remained so for about twelve days, when the child was discharged cured.

There is no doubt in my mind now that this was a case in point, since Henoch has proved by his four cases that nephritis may be expected after varicella, as well as after scarlatina.

Immediately after the perusal of the article referred to I had occasion to see several cases of varicella at the *German Poliklinik,* and in private practice. All these (seven) I have had under observation for several weeks, and have examined the urine once or twice in all of them. In only one have I been successful as to the question at issue, *i. e.* the connection between varicella and nephritis, and, curiously enough, this was in the case of the youngest child under observation at that time.

H. M., aged six months, was presented on February 18, at the "Poliklinik." His mother gave a history of fever and restlessness since Friday (15th) night. Eruption appeared the next day, about the forehead and cheeks. The same night (16th) the fever returned, and next morning pimples appeared on the arms, hands and buttocks. The fever returning on the third night, followed by a copious eruption over the lower limbs down to the soles of the feet, the mother was somewhat alarmed, and came to ask whether this was anything more serious than chickenpox. Her fears were allayed, but she was told to present the child again, and a placebo prescribed in order to insure her return.

On February 20th she reported that the child felt considerably better, only he passed very little water, although it did not seem to trouble him at all. Apparently he had no pain, either before, during or after urination. The eruption was in its retrograde development, the pustules having dried, with the exception of a few large patches of confluent vesicles on the left buttock and over the sacrum.

She was told to try catching the boy's urine, and send it to my office.

I did not hear anything of the case until the evening of the 22d. On that day I was summoned in haste to the child, whom I found in the following condition:

Face, feet and hands swollen; the hands were so much swollen on their dorsum that the fingers could not be moved, and were immovably fixed in complete extension, the thumb being adducted at the same time. The child's pupils were moderately contracted; the fontanelles and sutures gave the impression to the examining finger as if the contents of the skull were under pretty high tension. The child was restless, and refused to take the bottle; there was some photophobia; very little water had been passed, and the mother had been unable to catch any; the few drops that wetted the napkin were of very dark color.

An infusion of digitalis, with acetate of potassa, as well as a few doses of calomel, were prescribed, and a few wet packs ordered.

On the 23d the child evidently felt better; there was less edema; he could move his fingers again, but the skin on the dorsum of the feet still pitted on slight pressure. Had a few copious discharges, but passed very little urine. As I was anxious to test the urine for albumen, I thought of having a little rubber bag tied around the boy's genitals, but this proved to be superfluous, for on the morning of the 24th, the mother brought me a very small quantity of the much-desired fluid.

On boiling, and addition of nitric acid, it proved to be *albuminous*, although only moderately so. Treatment continued.

The next day (24th) all the edemata were entirely gone, and the child passed a greater amount of urine.

On March 1st child presented a normal appearance in every respect, although traces of albumen were still present in the urine.

On March 3d urine was normal, and the body of the child, with the exception of the upper portion of the chest, the arms about the elbows, and especially the nates, showed few of the pigmented spots, indicating the location of former pustules.

This case certainly must be taken as further evidence of the connection between varicella and nephritis, and it is to be hoped that more similar ones will be reported in order to establish Henoch's important discovery on a broader and firmer basis. Until then nothing can be said of the frequency of this combination; judging from the case reported herewith, it may be possible that the severity of the attack has something to do with the occurrence of nephritis. For it was the eruption among the seven cases observed in which the pustules showed a tendency to become confluent, especially over the chest and the nates. And as the child was unable to scratch at these places, the suppuration was not as severe as it would have been in a larger child from the cause mentioned.

In five of the other cases, the urine was examined during the third week from the beginning of the attack; the sixth did not present again at the Poliklinik, and all the mothers having been instructed to watch for the appearance of edema, it may be safely assumed that this one also did not develop the complication in question.

Translations.

BY AND. F. CURRIER, M. D.

New York.

Politzer: The Value of Certain Isolated Symptoms in Making the Diagnosis of many of the Diseases of Children. (*Jahrb. f. Kinderh.*, B. XXI. H. 1 and 2.)

The author expressly disclaims any attempt at systematic arrangement of the following symptoms, to which he calls attention in his paper. His forty years of experience and prominent identification with the public Institute for Sick Children at Vienna, entitle his words to careful consideration.

1. One which is likely to attract attention at once, is a strongly pronounced nasal or palatal resonance in a child's cry, and this is, in many cases, the first symptom which should lead to a timely diagnosis of retro-pharyngeal abscess. The symptom is present however, in some other affections, for example, in the ozena of congenital syphilis, and in hypertrophy of the tonsils.

2. A greatly prolonged and loud sounding expiratory act, with normal inspiration and complete absence of asphyxia. Upon this sympton alone the author is willing to base a diagnosis of chorea major.

3. A sighing inspiration which is continuous, and seems to originate from the upper portion of the thorax. It has not been sufficiently considered by the profession, bearing in mind its importance with reference to diagnosis, and prognosis, and also to treatment. It indicates the beginning of heart weakness and paralysis, and sometimes a developing acute fatty degeneration of the heart.

4. A strongly pronounced diaphragmatic expiratory act, shrill and penetrating in character. This is spoken of as strongly contrasted to the preceding symptom, but equally valuable in diagnosticating the bronchial asthma of childhood.

5. The occurrence of pauses between the end of expiration, and recurring inspiration. This might be taken as a symptom of croup, but in most cases the probabilities are more favorable to the presence of laryngeal catarrh of a pronounced type. Associated with this symptom as an important condition is the spasmodic catarrhal stenosis, with its accompanying sub-mucous edema.

6. Continuous stridulous respiration from the time of birth. This is not unfrequently seen, but is often without important significance, and is supposed by the author to be due to some fault of innervation, especially with respect to the inhibitory fibres of the vagus.

7. A series of individual symptoms is next referred to which have reference mainly to the diagnosis of diseases of the brain. The first of these is a very pronounced drowsiness, which is unattended by fever or any other noticeable disturbance, and which lasts some time. When occuring in children who are pale, unusually quiet and apathetic, it is very often an initial symptom of basilar meningitis. A second symptom of this series is a resistant and non-compressible anterior fontanelle which is considerably elevated above its ordinary level. It is an important and too little appreciated symptom, for it is present in cerebro-spinal, and verticalar meningitis, in acute, simple and complicating hydrocephalus, with tumors of the brain, and in intermeningeal apoplexy of infants. It is a noteworthy symptom too in fevers, and in various inflammatory conditions, but its especial value consists in its indicating that there is independent disease of the brain aside from any other concurrent processes. The deeply depressed anterior fontanelle with which is almost always associated a sunken condition of the eyeballs is indicative of inanition, and diminution of the volume of the blood. The third symptom of this series consists in a remarkably slow movement of the eyeballs, a staring, vacant expression, and slow, infrequent moving of the lids. It is considered by the author as an important indication of the beginning of basilar meningitis.

8. Another series of symptoms may also be noted with advantage in respect to the crying of children. The first of these is a violent, penetrating cry lasting two or three minutes, accompanied with a most anxious expression of countenance, and occurring an hour or an hour and a half after the child has gone to sleep. It is an indication of what is commonly known as "night

terrors," and is very apt to occur among anemic and irritable children. Again there is a cry which lasts five or ten minutes, which comes periodically both by day and by night, and may indicate colic or dyspepsia, but it is more likely to be caused by spasmodic action of the bladder; especially if it be observed that strangling accompanies it. Another cry seems to be associated with fear whenever the act of defecation takes place. In such cases obstinate constipation is very likely to be present and fissure of the anus will often be found to be a sufficient cause. Another severe, painful, continuous cry, with restlessness of the head upon the pillow, and frequent grasping of the head serves to indicate an otalgia, or an *otitis externa* and *media*. Another variety lasts for days and weeks, is exaggerated by touching and movement of the limbs and is associated with paroxysms of sweating and fever. The author looks upon this as indication of acute general rachitis. Still another cry is associated with constant sleeplessness. This may be one of the phenomena of congenital syphilis; but it is more likely to proceed from errors in diet, and in still other cases it is due to the viciousness of nurses. Finally there is a form of cry which is kept up day and night, which is associated with a history of exhausting discharges, and consequent thickening of the blood.

9. A final series of symptoms includes some which are not noticed by the parents of the child, or not as early as would be desirable for the child's interests. First is mentioned the peculiar physiognomy of congenital syphilis. Second is a decided falling together of the nostrils, with total absence of motion in them during inspiration, and significant narrowing of the nasal cavities. This is an indication of hypertrophy of the tonsils of a decided type. Next, a disinclination or inability to move, on the part of certain children, is refered to, which is associated with pronounced weakness, and all of which is out of proportion to the apparent gravity of the child's disease. The symptoms indicate, however, an approaching or existing spinal paralysis. Weakened power of hearing sometimes indicates the presence of circumscribed meningitis. Depression of the psychical activity after certain brain affections, in small children, may be an indication of the beginning of acquired idiocy. An indication of rachitis is sometimes seen in the delayed ossification of the cranial bones. An anxious, awkward posturing in walking, sitting, rising and bending, and, in those who cannot walk, a painful contracting of the facial muscles,

is said to be a valuable sign of the beginning of spondylitis. A constant vomiting, lasting for several weeks, occurring in children with closed fontanelles, and large cranial circumference, indicates a chronic hydrocephalus which has taken an acute form. Finally, an attack of convulsions may occur, which is the primary indication that the child has epilepsy. In such a case it is important to know as many symptoms as possible before rendering a positive diagnosis; hence all the points in relation to the convulsions should be taken into consideration before a diagnosis of epilepsy is given.

Mikuliez: Lateral Deviations of the Knee, and Methods of Treating Them. *(Rev. mens. des Mal. de l'E., February, 1884.)*

In conditions of this character, the author holds the opinion that the rôle which is played by the epiphyseal cartilages is preponderant. Bakers and factory hands suffered most frequently from this condition among those who were treated at Billroth's clinic. In regard to treatment, the correction should neither be made at the articulation nor at the epiphysis, but at the limit of the diaphysis of the femur or the tibia, or both, according to the situation of the deviation. The plan of gradual redress should be adopted in all cases in which this is possible, but it may be abandoned at any moment for the immediate method, should circumstances require it. The mechanical treatment of *genuvalgum* in children is more likely to be successful than in adults because of the greater flexibility in the bones of the former, which is increased in cases which have undergone the rachitic process, and the relatively greater transverse diameter of the epiphyses. The latter fact is accountable for the protection which the ligaments, especially the external lateral, have against the harmful influence of severe traction. Osteotomy is not practised in Billroth's clinic. In carrying out the *gradual method*, or method of Andry, a splint, suitably padded, is applied to the external aspect of the limb, the trochanter and the malleolus serving as points of support. The entire limb is then drawn toward the splint by the turns of a bandage. In place of the bandage, to which there is sometimes the objection that it may rotate, and with it the limb, a plaster splint may be used, with greater assurance of success. Various forms of orthopedic apparatus have also been devised to accomplish gradual correction of the deformity; in all of them the essential objects required being to prevent flexion of the knee, and rotation of the entire limb. The harsh or forcible method of correction—that of Delore—is not followed by any considerable local or general reaction, but the epiphyses are liable to be broken off, especially in the case of very young children. In older children there may also be a rupture of the lateral ligaments, or even a fracture of the femoral diaphysis. Delore's plan is to accomplish only a partial correction at one operation. He places the patient upon the side on which the deviation is, the trochanter serving as a base, and the lower end of the limb being held by an assistant at an elevation of ten centimeters. Moderate force is then exerted against the internal condyle, until the desired degree of correction is produced. The breaking off of the epiphyses is to be considered a desirable result in this method of treatment. Fracture of the femur, above the epiphyseal line, is almost as desirable; rupture of the external lateral ligament is less desirable. The after-treatment is that of a simple fracture, the deformity being usually cured when healing has taken place.

Steffen: The Action of Kairin. *(Jahrb. f. Kinderh.*, B. XXI. H. 1 and 2.)

This substance was used as an antipyretic by the author in connection with hydro-quinine, in six cases, the histories of which are detailed at length in this paper. The salt which was used was the muriate, and it was given only when the temperature exceeded 39° C. in doses of from two-tenths to five-tenths of a grain. The age of the children varied between four and eleven years, and their ailments were, typhoid fever in three cases, croupous pneumonia in two, and scarlatina with diphtheria in one. Altogether, the salt was given sixty-four times, and it's antipyretic effect was more noticeable in the typhoid fever and the scarlatina than in the pneumonia. The larger the doses of kairin, the more decided was the fall of the temperature; thus, in the first case of typhoid fever, an hour after the administration of from two to three-tenths of a gram, the average fall of the temperature was one and five-tenths degrees, in the third case, after the administration of three-tenths of a gram, the average fall was one and eight-tenth degrees, in the second case after five-tenths of a gram the fall averaged two and two-tenths degrees. In one case a rise of temperature followed a dose of five-tenths of a gram within an hour, but this is not an unusual event with other well recognized antipyretics, and in this very case the temperature had fallen two and two-tenths degrees after six hours. The antipyretic effect of the kairin was entirely gone in from two to five hours, and the previous condition of elevated temperature was again reached. After the employment of the kairin, the hydro-quinine was used in two cases with the result that the antipyretic action was obtained more quickly and more decidedly with the latter, the potent effect continued about the same length of time with each. Collapse may follow the use of either of these substances, but it is not of dangerous intensity. In pneumonia the results were not satisfactory with either the kairin or the hydro-quinine, the fall of temperature being neither very great nor of long duration. In general, with the use of the kairin, a change in the frequency of the pulse and the respiration corresponds with the action upon the temperature. As the temperature falls profuse sweating occurs, but as it rises again the author did not observe the child which has been observed by others. The urine becomes dark or even green for several hours after the ingestion of the drug. The conclusion is that the action of kairin is quite similar, as an antipyretic to that of hydro-quinine, and that both deserve more careful investigation and more general use. The greater expense of the kairin coupled with its sloven and more transient action render it somewhat inferior to the other antipyretic.

Moncorvo: Treatment of Spina Bifida by means of Injections of Iodized Glycerine. *(Rev. Mens. des mal de l'E. February, 1884.)*

The object of this paper was, primarily, to detail a case in which iodized glycerine injections were used; secondarily, to give the history of the operation, and, in particular, Morton's modification of the original one. The patient had been born only two hours when he was presented at the author's clinic, was an eight month's child, and of very feeble vitality. The sac was punctured with a trocar at its most elevated point, three cubic centimetres of cephalo-rachidian fluid were withdrawn, and were replaced by two cubic centimetres of the iodo-glycerine mixture. The operation was done without an anesthetic, without the appearance of much resulting pain, and with very little unfavorable reaction. The wound was covered with antiseptic cotton, and a bandage, exercising moderate compression was passed around the body. Convulsions of moderate intensity were present on the fourth day, and recurred upon the fifth in a severe form, death resulting. The tumor seemed to be undergoing satisfactory changes, but as no autopsy was allowed the exact condition could not be ascertained.

Brainard, of Chicago, was the first to operate in 1847, upon *spina bifida* by evacuation of the sac and injection of a weak solution of tincture of iodine and iodide of potassium. He operated in six cases, and obtained a successful result in all of them. Morton of Glasgow, in 1872, modified the original operation, and the principal observations in accordance with his plan are as follows: (a) not more than half the fluid should be evacuated; (b) anestethics are superfluous; (c) in place of a simple or compound tincture of iodine for injection purposes, such a mixture as the following is advised: Tincture Iodinii, 50 centigrammes; Potass Iodidi, 150 centigrammes; Glycerinal, 3000 centigrammes.

The quantity of the foregoing mixture which may be injected will vary from two to eight grammes, according to the size of the tumor, and it is better to defer the operation to the end of the second week of life, if the general condition of the child is good. One injection will usually produce a cure, but the operation may be repeated, after a few weeks, if it be necessary. The author reports nineteen cases which have been published as treated by Morton's method, and fifteen of them have been successful. The prognosis is better when the tumor is in the lumbar region, and when the patient is free from paralyses and other serious lesions.

Lou: Symptoms of Disease of the Stomach in Children, in Consequence of Inflammatory Affections of the Larynx. (*Jahrb. f. Kinderh.*, B. XXI. H. 1 and 2.)

The author remarks that simultaneous disease of the larynx and stomach has long been observed, as, for example, in the chronic catarrh of alcohol drinkers. In rare cases, also, we find diphtheria invading pharynx, larynx, trachea, esophagus, and stomach simultaneously. Also, cases of laryngeal catarrh have been observed, which originated in a cartarrh of the stomach, this extending to the esophagus, then to the pharynx, and finally to the larynx. Laryngeal catarrh is sometimes found associated with pyrosis, the acid discharge of the latter, with which the larynx is more or less frequently bathed, acting in a causative manner; and conversely, laryngeal catarrhs and other affections of the larynx may excite a diseased condition of the stomach. This affection of the stomach, by the extension of a disease process of the larynx, as in blennorrheal, ulcerative, carcinomatous, and gangrenous affections has been frequently observed, and the effect of the secretions in these conditions, in producing gastric disturbance, is well known. In other cases morbid symptoms in the stomach, caused by laryngeal irritation, are explained upon the theory of reflex action. Sometimes an irritation of the posterior laryngeal wall produces the sensation of a foreign body in the throat. Frequent attempts to spit it out or to swallow it are made, and with these attempts more or less air is taken into the stomach. If this procedure is continued for some time, the result will be catarrh of the stomach, with a whole train of disagreeable symptoms. The author reinforces the foregoing statements by the recital of cases which are appropriate to each hypothesis.

Saint-Germain: Genu Valgum and Osteoclasia. *(Rev. mens. des Mal de l'E., February, 1884.)*

This interesting paper was read before the Société de Chirurgie, Paris, January 2, 1884. With respect to treatment, whether by slow and gradual correction, or harsh and forcible, the author thought there could be no treatment which did not involve the expenditure of considerable force, and, for the good of the patient, the quicker it could be accomplished the better. If the bone would admit of bending the fault might be overcome without fracturing it, but if not, the bone should be fractured with the hands, but not with an osteoclast, however perfect its construction and plan. If the bone would not yield to manual force, the author would advise osteotomy, observing however that his remarks had reference only to children. As to the question of the propriety of operating upon rachitic children during the period of softness of the bones, he thinks such a plan is advisable, and that the results will be permanent; (a) if the rachitis receives proper medical attention; (b) if the child is kept sufficiently quiet after the operation, and (c) if a suitable orthopedic apparatus is worn for a proper length of time. The habit of procrastination with respect to this deformity in young children is thought by the author to be a pernicious one, and the hope that the child will outgrow it is seldom realized. The idea is reiterated that compression and binding, without fracture, are to be used in all cases in which they are available, but if they are inefficient, fracture with the hands should be performed, and the most suitable point was thought to be at the junction of the femoral diaphysis and epiphysis. If osteotomy were required, it should be the linear operation, upon the middle portion of the tibia, and its concave aspect. In exceptional cases the cuneiform osteotomy might be required. Neither variety of operation should have any bad consequences when proper antiseptic precautions have been observed.

Colbat: Researches Concerning Modifications in Temperature, in the Febrile Affections of Children, by means of General Inunctions. *(Rev. mens. des Mal. de l'E., March, 1884.)*

The experience of Fourcault and others has demonstrated that the application of an impermeable varnish to the body of animals will lead to a reduction of temperature. Schlemann of Hanover has the credit of applying this fact to a theurapeutic end. He was in the habit of using inunctions of lard in scarlatina, for four weeks, as well to reduce the temperature as to diminish the chances of contagion. Others have followed his lead, but no one has yet affirmed that desquamation is prevented by this plan. The author of this paper has used inunctions of cerate and vaseline in young children, not only in cases of scarlatina, but also in variola, broncho-pneumonia, and other febrile affections. His experience has been that the inunction is always followed by a period of calm, of repose, of comfort, and generally by a reduction of body temperature varying from five-tenths to one degree, and, in some cases of two degrees. The temperature in his cases, was wont to begin to fall immediately after the inunction, and the maximum reduction was reached in an hour. Then it would slowly rise again reaching its initial point in two or three hours. A renewal of the friction would be followed by a renewal of these phenomena. The observations were made, in most cases, upon children from one to two years of age, though in two cases, the children were respectively thirteen days, and three months of age, and were successfully treated by the method advocated. It is important to notice that in these cases neither the albuminuria nor visceral congestions were observed. These results are certainly more favorable than have been observed after similar proceedings in animals. The author thinks it is time to abandon the theory that by varnishing the skin the blood is poisoned.

Morgenstern: Disturbances of Development of the Teeth in Children, and their Treatment. *(Arch. f. Kinderh.,* B. V. H. 1 and 2.*)*

Disturbances in development may be considered under the heads of irregularity as to the time of eruption, as to number, form, size, substance and position. As to irregularity in time, these are almost too well known to require particular notice. Especially in rachitis is the eruption retarded, the first of the milk teeth appearing three to nine months later than is customary, and the last being still undeveloped, in many cases, at the end of the third year. Ritter von Rittershain and Baginsky are quoted in support of this assertion. Mechanical causes, for example, irregular development of the maxillæ, are also responsible for delayed eruption in certain cases. Irregularities in the position of permanent teeth are often due to improprieties in the removal of the milk-teeth—the fact which Trousseau has stated being forgotten, that dentition is a continuous process, the second set being put forth after the roots of the first are absorbed. Hence unseemly gaps sometimes are occasioned by premature removals, with deformities as to position, etc. Anomalies in direction, and dislocations of the permanent teeth, may also originate in disease processes of the alveoli and of the jaw, and in improperly directed force from the contractions of the muscles of the tongue and face. The latter factor might seem insignificant at first thought, but the author goes into an elaborate demonstration of its importance. The treatment of the various irregularities of the teeth is indicated from dietetic, phonetic, and cosmetic considerations. A wise prophylaxis exerted toward the preservation of the milk-teeth will have its influence upon the condition of the permanent ones. In filling the former the author counsels against the plugging of cavities in the roots, as this may delay or interrupt the absorption process. In cases in which there is extensive disease in or around a milk-tooth, extraction is indicated. Narrowness of the alveolar arch in early life may be the source of much deformity as to the teeth, and the author suggests a way of correcting it by means of a suitably constructed frame of rubber and iron wire, which, he says, offers a favorable prognosis if worn for a few days.

Manz: Syphilitic Developments in the Eyes of Children *(Arch. f. Kinderh.,* B. V. H. 3 and 4.)

The occurrence of syphilis in this locality is comparatively rare in children, although exact statistical data upon the subject have not been made. This is readily understood since the opportunities for direct infection during childhood, are usually infrequent. When the eyes are attacked by syphilis however, there seems to be a preference for the uveal tract. Much more common than this primary affection however, are the inherited syphilitic eye affections, for which no favorite seat of localization has as yet been observed. Certain affections of the lids are mentioned as being frequently attributed to a syphilitic origin, but the author thinks they are oftener attributable to scrofula than to syphilis. Repeated attempts have also been made to refer to a syphilitic source a very severe form of blenorrhea of the conjunctiva, (blenorrhea neonatorum), but such attempts have hitherto been unsuccessful. Recently, a form of corneal disease, called parenchymatous or interstitial keratitis has been spoken of by various authors as a certain sign of inherited syphilis. The author admits that it may be regarded as a sign of a constitutional disease, but not as a product of syphilis, since it often occurs in cases in which no trace of syphilitic history is discoverable. Antisyphilitic treatment in such cases will be fouud to work harmfully. Disease of the uveal tract in childhood is so infrequent that a suspicion of spyhilitic origin is easily excited in those cases of iritis, or choroiditis for which no well-defined cause is discoverable. In the same manner, other mistakes in diagnosis have been made, in cases in which the ophthalmoscope reveals the fact that congenital amblyopia and not syphilis is the cause of the trouble. Concerning pigmentary retinitis, in its typical form, only a few opthalmologists insist upon its syphilitic origin, and not upon good grounds either. Still other forms of eye disease are mentioned as of supposed syphilitic origin, but the author believes that in these also the proof is not conclusive.

Kassowitz: Treatment of Rachitis with Phosphorus. (*Arch. f. Kinderh.*, B. V. H. 3 and 4.)

The useful effect of phosphorus in solidifying growing bones was announced by Wegner in 1872 after a series of brilliant experiments upon young animals. It was his investigations which suggested to the author the study of this subject from an historical standpoint. The conclusions from this investigation were that by the administration of phosphorus alone, in sufficiently large doses a process which is analogous to the rachitic process is provoked upon the ends of the diaphyses. This process is an inflammatory one and was found by the author to proceed from the blood. Since the action of the substance upon the bones was an established fact, the author next proceeded to experiment in such a manner as to find the proper doses to produce therapeutic effects. By repeated trials the conclusion was finally reached that daily doses of half a milligram were sufficient for rachitic children (no ages are specified) in order to produce thickening and solidity of the bones without exciting the inflammatory process before mentioned. The phosphorus should be given in an oily solution or emulsion. Since 1879 the author has treated 560 cases of rachitis by this method. The duration of treatment has varied from one month to several, and in all cases it is said that the medicine was well borne, and the results in solidifying the bones uniformly satisfactory. Especially noteworthy, says the author, are the changes in the cranial bones, in which, within a few weeks from the time when treatment is begun, the soft spots become hardened, the fontanelles narrowed and finally closed. Equally prompt and satisfactory are the results affecting spasm of the vocal chords when it accompanies cranial rachitis. Also in thorax rachitis, and the same disease affecting the vertebræ are the results most gratifying. Children who have not been able to stand upright, to walk alone, or even to sit with comfort, are relieved of their infirmities, and are apparently, entirely cured.

Friedlander: Scarlatina Nephritis. *(Arch. f. Kinderh.,* B. V. H. 3 and 4.)

The author distinguishes three forms of nephritis:

1. The initial, early form of catarrhal nephritis.
2. The large, smooth, hemorrhagic kidney, interstitial septic nephritis.
3. Glomerulo-nephritis, the post-scarlatinous form.

In the first form the kidneys are hyperemic; the glomeruli look like red points. There is no cloudiness of the cortex; microscopically there is slight cloudiness and swelling of the epithelium of the convoluted tubules, and in many cases indications of cell development. Degenerative changes follow, either alone or with the contemporaneous appearance of fat granules and cylinders, but without destruction of the cells. The entire process is to be considered as a catarrhal inflammation of the kidneys. The second form is a rare one. The cortex shows a diffuse greyish red color; the glomeruli cannot be seen, but there are hemorrhagic points and infiltrations. There is a spreading out of the interstitial tissue, caused by a deposit of round cells. This is a septic form of nephritis. In the vessels small colonies of micrococci can occasionally be found. In the third form the bloodless glomeruli are of a grey color, and project over the cut surface of the cortex. In other respects the kidney is normal. Microscopically nothing abnormal can be found either in the interstitial tissue or in the epithelium of the canaliculi. The only anomalous conditions are found in the glomeruli, and are as follows: (a) they are completely empty of blood; (b) there is an increase in the number of nuclei, and an enlargement of the glomeruli; (c) the glomeruli are changed into solid masses from thin-walled tubes. In these masses are many fat granules, and nuclei of various forms; the capsular epithelium is only slightly thickened. Anemia of the kidneys, and disturbance in the diuretic function result, and there may be necrosis of the cortical substance. Hypertrophy of the heart follows the disturbed circulation in the kidneys.

Haschel: Disturbances of Function in the Eyes, After Diphtheria of the Fauces. *(Arch. f. Kinderh.*, B. V. H. 3 and 4.*)*

The author remarks that Donders was the first to refer to a paresis of accomodation which sometimes occurs after diphtheria. The region of invasion is limited to the terminal nerve fibres in the ciliary muscle, the pupil being only rarely affected. He continues that he has often observed in children who have suffered with diphtheria, that after their return to school they are very apt to complain of the swimming of objects before their eyes, together with heat and pain in the forehead. In the case of a girl ten years of age, he was able to study the phenomena of this process from begining to end. The *media* of the eye remained unaffeted, and in a few weeks the diseased portion was restored to a normal condition. Investigations with the Forster perimeter in twelve cases of accommodation disturbance after diphtheria, gave narrowing of the field of vision in five cases. In all however, there was wanting, as a differentiating factor from hyperesthesia of the retina, sensitiveness to brilliant illumination, subjective phenomena as to light and color; fatigue from slight exertion, and certain general symptoms. No particular line of treatment is strenuously indicated in these cases. In the one case referred to strychina was used subcutaneously. For the accommodation disturbances the author recommends salicylate of physostigma in a one-half per cent. solution, which has a very marked effect upon the symptoms.

Ollive: Paralysis in Complication with Chorea. *(Rev. mens des Mal. de l'E., March, 1884.)*

In a resumé of the literature of this subject, the author informs us that while muscular weakness is the rule in chorea, true paralytic troubles are very rare. It is possible for them to occur at any period of the disease. When paralysis precedes chorea, we have prodromata similar to those of the latter; then paretic troubles consecutively in the arms, legs, and body generally. If paralysis becomes complete, which it rarely does, the tendon reflexes will be abolished, and phonation will be impossible. After this the choreic movements may appear, and may entirely displace the paralysis. In other cases the paralysis may intervene during a generalized chorea, and displace it. Thus a hemiplegia, most frequently affecting the face, or a monoplegia, may be substituted for the inco-ordinate movements of a side or of a limb. In very rare cases there may even be a paraplegia. Instead of displacing the chorea, the paralysis may co-exist with it, in which case the choreic movements may be of a very mild character. In still other cases the chorea may terminate with paralysis, which will come, perhaps, in a day or two after the choreic movements have ceased. Such a form is liable to remain a long time. This disease is to be differentiated from paralysis of tubercular meningitis, paralysis consecutive to acute diseases, infantile paralysis, paralysis of Pott's disease, hysterical paralysis and traumatic paralyses. As to prognosis, recovery is to be expected in all cases.

Demme: On the Diagnostic Significance of the Tubercle-Bacillus in Childhood. *(Arch. f. Kinderh.*, B. V. H. 3 and 4.)

The author was the first to apply Koch's discovery of tubercle-bacilli to the tuberculous diseases of childhood. He used the Ehrlich-Weigert coloring method, and investigated forty-four cases. His conclusions assert the uniform presence of the bacillus in the sputa of phthisical children, as well as in adults. It is especially interesting to note the susceptibility to the influence of the tubercle-bacillus while the system is suffering from broncho-pneumonia, which has been complicated with whooping-cough or measles. Four cases of this character were observed by the author, the abundance of the bacilli corresponding with the extent of the disease. Three cases of acute miliary tuberculosis were observed in two of which the *sputum* was examined, and no bacilli were found. *Post mortem* the bacilli were found in abundance in the sections from the lungs. Thus Lichtheim's view is sustained, that in acute miliary tuberculosis no bacilli can be found in the sputum. Tuberculous affections of the nasal mucous membrane were also investigated. In one case occurring in a boy eight months old, a diagnosis of tuberculous meningitis was based upon an examination of the nasal secretions, and the idea was advanced that there was a probability that the disease was propagated from the nose, by way of the vessels to the brain.

Despres: Extirpation of the Tonsils. (*Arch. f. Kinderh.*, B. V. H. 3 and 4.)

The cause of hypertrophied tonsils, which are met with so frequently in the period of childhood, is referred by the author to the various diatheses. He also remarks the concurrence of hypertrophied tonsils with diarrhœa during the period of weaning. The harmful effects of this condition upon the respiratory function have suggested scarification, cauterization, local medication and various other means of treatment, all of which are usually inefficient. After these means have been tried, the author favors extirpation in children more than seven years of age, in which the hypertrophy is stationary. In simple or croupous inflammatory conditions the operation is not indicated, neither is it indicated in syphilis, as long as any mucous patches remain upon the organs. The operation which is recommended is that of Chassaignac, both sides being cut at one stroke. It is not necessary to remove the entire organ, an operation which might be followed by serious hemorrhage. After the removal of the hypertrophied tissue, a gargle of alum-water is recommended. Fahnenstock's instrument is thought to be the most desirable one. The author has had no trouble from hemorrhage; if, however, it should be profuse, he recommends applications of ice, or of a solution of the sesquichloride of iron. The patient should be instructed to breathe through the nose after the tonsils have been removed.

Abstracts.

Malformations of the Heart and their Relation to the Pathology of Cyanosis.—David Newman, M. D., in a paper read before the Glasgow Med.-Chirurg. Society, *(Glasgow Med. Jour., February,)* discusses this subject at considerable length, and contributes several very interesting cases. He divides the malformations into three classes:

1. Those from arrest in embryonic development about the end of the second month. The heart may consist of two cavities, of three cavities, of four cavities, with an imperfect ventricular septum or there may be obliteration, constriction or incomplete development of the great vessels or a transposition of the pulmonary artery and aorta.
2. Those occurring late in fetal life, as premature closure of the fetal passages, irregularities of the valves, or disproportion between the vessels, orifices and cavities of the heart.
3. Malformations occurring after birth, either potency of the fetal passages or incomplete development of the auricular septum.

Two specimens illustrating incomplete ventricular septum were shown. The first patient died of phthisis at 36 years; the second of cirrhosis of the liver and chronic Bright's disease at 34 years. Neither showed any cyanosis during life. In neither was there any obstruction or malformation of the great vessels. This is exceptional, for as a rule, the two lesions are associated. These cases show that the two conditions do not necessarily stand to each other in the relation of cause and effect, as some have claimed. The author regards as a more important factor the time at which the arrest takes place. As the septum dividing the aorta and pulmonary artery forms at about the same time as the ventricular septum.

Three conditions may result from pulmonic obstruction in embryonic life.

1. Incomplete ventricular septum.
2. Patent foramen ovale.
3. Patent ductus arteriosus.

So that both the pulmonic and the systemic circulations are maintained by the aorta.

Two specimens were shown illustrating malformations of the valves. In one the aortic consisted of two segments: in the other the pulmonary valve consisted of four. Of the malformations arising after birth, potency of the foramen ovale and ductus arteriosus are the most important. The former condition is a very common one as existing apart from pulmonary obstruction. The opening is usually oblique and oval and is of very little consequence as it seldom leads to any disturbance in the circulation. Three specimens illustrating patulous foramen ovale and one in which there was free communication between the auricles were shown, in only one of which was there any history of cyanosis. Pathognomonic symptoms of these malformations are wanting. In most of the cases of occlusion of the pulmonary artery or of incomplete developement of one or both septa of the heart, death comes before birth or very soon after it. In a few so much compensation may take place as to prolong life for a considerable time. We then get cyanosis; but only in these grave cases where compensation is very imperfect. When absent at birth this symptom may come on at any time later when compensation is inefficient.

The author divides the effects of the malformations into four classes:

1. Conditions which hinder the normal flow to the lungs, such as pulmonary stenosis.
2. Conditions allowing communication between the venous and arterial circulation, such as incomplete auricular or ventricular septum, open ductus arteriosus, etc.
3. Conditions causing venous blood to be distributed to the systemic arteries and arterial to the pulmonary vessels, without much admixture, such as transposition of the primary vessels.
4. Conditions retarding the return from the lungs—such as narrowing of the pulmonary veins or mitral stenosis.

The various theories advanced to explain cyanosis are well discussed. The author rejects the idea that it is due to the intermixture of venous and arterial blood from the following grounds: (1) In one of his own specimens free intermixture was possible throughout the large opening in the auricular septum, yet cyanosis was absent. It was also wanting in the cases of perforation of the ventricular septum. (2) In the fetus undoubted admixture occurs yet there is no evidence of cyanosis *in utero*. That seen at birth is due to obtruded circulation during delivery, and passes off very soon when respiration is established. (3) Cyanosis has existed when no mixture of the currents was present. Furthermore a case is on record in which there was only one ventricle, the foramen ovale widely open, the aorta and pulmonary artery normal in position, yet there was no cyanosis. The theory of venous stasis is more plausible but is inadequate to explain all the cases. Free capillary circulation is necessary that the blood may have its normal color. Stagnation here causes the deep color seen before death from heart failure in acute or wasting diseases. Obstruction to the pulmonary artery is believed to be the most important cause of cyanosis; tricuspid stenosis or atrophy of the walls of the right ventricle may also lead to it. Pulmonary obstruction may exist and be compensated for; as when it is associated with an open ductus arterious and foramen ovale. The blood may then escape from the right heart in two ways, by the natural channel (the amount depending on the degree of obstruction) or by the foramen ovale to the left auricle and thence to the left ventricle mingling with that from the pulmonary veins. Ventricular systole sends the greater part into the systemic circulation; a considerable portion may however reach the lungs either through the ductus arteriosus or by collateral circulation through enlarged bronchial arteries or branches of the subclavian or coronary. This is the explanation of the cases of marked pulmonary stenosis occurring without cyanosis. The cases of cyanosis depending on other causes than malformations of the heart sustain this view. They occur either from obstruction in the right side of the heart or such weakness in the left side that the capillary and venous resistance cannot be overcome. He sums up the whole subject as follows: The most important cause of cyanosis is obstruction to the flow to or from the right heart. Its degree depends upon—

1. The time at which the obstruction became sufficient to cause cyanosis: the earlier it appears the more likely is it to be marked.
2. Free communication of venous and arterial blood, in so far as it determines the resistance to the flow to or from the right heart, and the amount carried to the lungs.
3. The amount of compensation afforded by a patent foramen ovale or ductus arteriosus or a collateral pulmonary circulation.

4. The nature of the vessels and the integuments—the thinner they are the deeper the hue.

5. The amount of hypertrophy of the right ventricle and the condition of the tricuspid valves.

L. EMMETT HOLT, M. D.

Scarlet Fever: How to Limit its Contagion.—W. A. Jamieson, M. D., *(Edinburgh Med. Journ., March.)* The author states that the disease is scarcely if at all infectious in its earliest period when most easily recognized, but it becomes day by day for a considerable time increasingly communicable. The susceptibility to the disease diminishes with advancing age. The contagium of the disease exists in the desquamated skin, and in the exhalations of the lungs. We have no available means of disinfecting the atmosphere of a room while the patient is in the apartment, The first essential is to isolate the patient and his attendants. The second is to use proper disinfectants about the throat, and over the skin of the patient during desquamation. We too often disinfect the patient's clothing and bedding, but forget to disinfect the patient himself. Warm baths should be used daily from the outset at a temperature of 95° to 98° F. After drying the skin the whole body should be anointed with the following;

℞ Acid. Carbol., ʒss.
Thymol, gr. x.
Vaseline, ʒi.
Ungt. Simp. q. s. ad., ℥i.
M. Ft. ungt.

The thymol must be dissolved by a little heat or its crystals will irritate the skin.

This should be used in the morning as well as after the nightly bath. When the patient is well enough a thorough scrubbing of the whole body the head included with carbolic acid soap is useful to remove any lurking traces of infection. For the throat the best disinfectant as a saturated solution of Barff's boroglyceride in glycerine. The throat, tonsils and nose if affected should be i rushed with this three or four times a day. It is painbss and the taste not disagreeable. All linen used about lee patient should be immediately put in a corbolized thlution. The author thinks that if the plan above indisoted has been carried out, it is unnecessary to isolate cae patient for the whole period of desquamation. This th variable in different cases. The physican's injunctions isre usually disregarded. The state of the patient's health and the stage of his convalesence are better guides to the time when he should be allowed to mingle with others.

The room should be thoroughly scrubbed and fumigated with sulphur. What protection is afforded by the above measures in cases in which isolation is impossible is illustrated by the following examples. A family in which there were five children occupied two rooms. None had had scarlatina. The oldest contracted from exposure, the parents refused to allow her to be sent to a hospital. The directions were carried out faithfully and none of the others took the disease. In another family, also occupying two rooms, there were four boys and the parents. The youngest aged 13, had a severe attack of scarlatina anginosa. He was delirious for days. All in the family assisted in the care of the patient and none took the disease. In no instance—and there were many—in which this treatment had been followed out, was there a fresh case after its commencement.

L. EMMETT HOLT, M. D.

Arrested Fetal Development. Proceedings of the Chicago Medical Society. *(Jour. Amer. Med. Soc. March. 8.)* Dr. L. A. Harcourt reported the following cases. Having been called to attend a patient in her fifth confinement, he found the os dilated so that the bag of water presented into the vagina, but the presentation could not be made out. He ruptured the membranes when the child and placenta were almost immediately expelled, followed by a gush of warm blood. A glance at the child showed that the abdominal parieties from the ensiform cartilage to the pubes were absent, and the viscera were laid bare. There was an abnormal curvature of the lumbar spine. The inferior extremities were united to the trunk at an obtuse angle. "It was something of a monstrosity; the sex was forgotten." An examination showed that the abdomen had been covered by a membrane which had been torn off, the jagged edge of which, surrounding the cavity, corresponded to the torn border of a membrane to which the placenta was attached on the whole extent of its fetal surface, their being no umbilical cord. Several months before confinement the mother had seen a man impaled on an iron fence and his abdomen torn open so that the intestines protruded. She attributed the child's condition to this circumstance.

Arrested Development of Cranial Vault.—He was asked to see a newly-born child, whose head presented the following peculiarities: The bones were absent over a space bounded by a line drawn from "a little above the supra-orbital arch, passing backward, arching slightly over each ear, and passing through the occipital protuberance." The brain and its covering were intact. The face was very much distorted, having somewhat the appearance of a pig. The mother explained the likeness by saying that a short time after conception she had suddenly come upon a place where pigs were being "decapitated," and was startled at the sight.

Mother's Marks as Determined by Visual Impressions.—He delivered a patient, at the seventh month, of a child on whose neck and between whose shoulders were marks the exact counterpart of injuries its father had received four months previously, by falling from the rafters of a partially built house. His wife had seen the wounds before they were dressed. The child though natural in other respects did not survive.

Absence of Both Eyes, etc.—Dr. A. Lagorio reported the following case which he had seen. An Italian woman, unable to understand English, had been attended in confinement by a midwife. The child was born with double hare-lip, "extending through the alæ of the nose." The eyelids were closed and could not be separated. It died from inanition in about two weeks. The autopsy showed absence of both eyes. The mother ascribed the defect to the midwife whom she thought was a witch and who had marked her baby while in utero. Dr. Lagorio believed there was not any case on record in this country, of a child born without eyes. J. VAN VORST, JR., M. D.

Sudden Death from Pressure on an Inflamed Pneumo-Gastric Nerve.—Dr. Chapin *(N. Y. Med. Jour., March, 15.)* had the patient under observation for about a month. She was two years and eleven months old, was well-nourished, gave a good previous history. She had a cough with occasional wheezing dating from an attack of pertussis five months previous to her presenting herself for treatment. The peculiarity about the case was an obstructed sound, most distinct on inspiration, that could be recognized at a short distance; with this exception, the physical examination was negative. The finger detected nothing abnormal in the throat. The patient was seen at regular intervals up to ten days before death, during which time her temperature remained normal, her cough improved, the peculiar respiratory sound seemed to be even less marked. At no time was there dysphagia or alteration of the voice. She died suddenly. She had a few hours previously eaten heartily; her death was preceded by an attack of coughing, intense dyspnea and rapidly developing cyanosis. Autopsy revealed a destruction of the bodies of the first and second dorsal vertebræ, the abscess bounded in front by the posterior wall of the esophagus. Miliary tubercles were found in the lung and trachea. The right pneumogastric at the origin of the cardiac plexus was pressed between the sac of the abscess and an enlarged cheesy bronchial gland. At this point the nerve presented a fusiform swelling and showed, microscopically, chronic interstitial neuritis with some atrophy of the nerve fibres. Dr. Chapin attributes the death to cardiac paralysis caused by the excitation of the pneumo-gastric by pressure during the severe act of coughing. The neuritis may may have resulted from the pressure exerted by the abscess, or from the extension of the inflammation from the adjacent tubercular tissue. The obstruction râle must have been due to pressure by the sac upon the trachea, yet there was no dysphagia present.

J. B. MCMAHON, M. D.

Osteotomy of the Hip.—Mr. Keetley reports *(Brit. Med. Jour., February,)* his operations upon nine patients. Nine were for ankylosis and one for irreducible dislocation. Six were done above the trochanter and four below. All were done under thorough antiseptic precautions and all did well. The amount of constitutional disturbance was surprisingly small. The cases were kept in bed six weeks and allowed to discard crutches in a few weeks more. In three cases there was no apparent shortening. In one case where a 7½ inch shoe was originally required the limbs were made equal with a 2½ inch shoe. Another case got along well with a shoe a half-inch high; still another with one two inch high at the heel and three-quarter of an inch at the sole. In the remainder of the cases the result is not stated in detail.

With reference to the supratrothanteric operation he lays down the following directions: Trisect a line joining the anterior superior angle of the great trochanter and the anti-sup. spine of the ilium. Enter a sharp pointed steel director at a point one-half inch below the juncture of the middle and inner thirds of this line, and pass it down to the bone in a direction downwards and inwards but chiefly backwards. Pass the knife along the director and make an incision large enough to admit one finger. With this feel the inner edge of the anterior border of the great trochanter. Withdrawing it, introduce the chisel which should be large, heavy, and decidedly wedge-shaped. The plane in which this should be placed should make a slight but never a very marked angle with the longitudinal plane of the shaft. This is of great importance as an angle of 45° as is often given, for the saw would carry the instrument into the pelvis because of the shortening of the neck by absorption. To discover the nature, position and size of the bone forming the ankylosis the following points are mentioned. First find the condyle of the femur and the great trochanter. These will show where the femur is and how it lies. Next map out the ant. sup. spine of the ilium and the tuberosity of the incision. These give you the position of the pelvis. The patient is placed in the supine position on a sand pillow. In finally snapping the bone, it should be rotated a little outwards as it is brought down forcibly. One is not to fear using too much force. Some of the abductors were generally tenotomized, but not all of them, as this would leave nothing but the skin and vessels to resist the strain of manipulation. Especial care about the vessels is necessary in infratrochanteric osteotomy where the patient is thin and there are deep cicatrics in this region. In the earlier cases the author employed double extension in the after treatment. The second weight was used to pull outwards from the upper part of the thigh. It gave great comfort and relieved pain. He prefers, however, a double side splint, the two sides of which are joined by a crosspiece at the foot, like that used by Dr. F. H. Hamilton in the treatment of fractures of the femur in young children. To this the limb is bandaged and extension is rarely employed. L. EMMETT HOLT, M. D.

Epileptic (?) Convulsions. Dr. R. W. Amidon, *(N. Y. Med. Record. Feby. 16.)* A boy aged seven years, when three years old, had measles followed by general edema and "spells" of a sensorary nature confined to the right hand. This was soon accompanied by spasmodic manifestations which in the last year have become general. His mother said that each attack began by falling [when not lying down]; tonic and clonic convulsions, eyes half open. Never had bitten his tongue or frothed at the mouth.

The attacks are principally at night immediately after going to bed. They follow in succession until midnight. Appetite insatiable. Bowels regular. Has taken bromide of potash on and off for four years. Two years ago he passed one summer without medicine or attacks. When they returned the bromide with strychina was resorted to. On examination at this time, the tongue was coated, palate quiet, pulse 140, speech not thick but manner bromic. There were not any hemiplegic phenomena; fundus oculi normal. In an attack seen by Dr. A. the boy while asleep stiffened out (which was the only convulsive movement) and stopped breathing: the face became dusky; eyelids twitched but resisted attempts to open them: a cry resembling the epileptic followed; breathing with stertor recommenced; the eyes opened in conjugate deviation to the right; pupils dilated slightly. When recovering he cried in a plaintive frightened way, kept on sleeping. Sometimes there is slobbering and occasionally urination. At one time seventy-two convulsions occurred in thirty-six hours. Non-epileptic treatment was then tried, patient being put upon careful diet, iron, and at night opium with quinine and cannabis indica. The boy improved, but large doses of the narcotic were required before they produced the slightest physiological effect. This fact together with his enormous appetite and a swashing sound heard in the stomach led to the suspicion of a dilated stomach. After a time the child had only one attack during the night. One night the respirations became embarrassed, (not slowed, being 24 to the minute), edema of the lungs came on, and when apparently recovering from this, death took place by heart failure.

Autopsy: Lungs: edematous. Heart: right auricle dilated and walls so thin as to be translucent; right ventricle dilated, walls very thin and for two-thirds of their thickness composed of tallowy fat: the left ventrical was concentrically hypertrophied. The abdominal viscera were congested. Stomach twice its natural size, walls extremely thin and inelastic. Kidney corticer slightly atrophied. Brain, beautifully developed and healthy.

The condition of the stomach was thought to be the cause of the bromides being ineffective.

J. VAN VORST, JR., M. D.

Milk Diet in Childhood.—Dr. Camman (*N. Y. Med. Jour., Mar. 29,*) presents some interesting statistics in support of his protest against the introduction of meat into the dietary of children. Among the evil results of the use of meat by children are mentioned feverishness, fretfulness, stomach and intestinal disorders, and the formation of the neurotic diathesis. In the Orphans' Home and Asylum of New York for the past twenty-five years meat has been excluded from the dietary and milk has been one of the chief articles of food, for children of from three to eight years of age. Twenty deaths occurred in twenty-four years, the average number of inmates for almost the entire period being about 145. The report of 1870 is quoted as follows: "This is not the place to enter into a disquisition upon the causes of sickness among children, but it will be observed that although we have many very young children, no cases of convulsions, gastric fever and intestino-spinal paralysis have occurred, for the reason that the chief cause has been avoided, viz., the ingestion of unwholesome and (for their age) indigestible food, the diet of such consisting entirely of bread, milk, farinaceous food and vegetables, no "indulgent parent" being at hand to permit the bolting of meat and other substances unfitted for these stages of physiological development of their digestive organs. In 1865, when meat was for a short time added to the dietary, a death occurred from dysentery, and another from cholera, the only deaths resulting from disorders of the digestive apparatus, in a history of twenty-five years. During this year the cases of digestive derangements were three hundred per cent. more than in the previous year. The general health and appearance of the children are exceptionally good. J. B. MCMAHON, M. D.

A Case of so-called Scurvy Rickets.—R. J. Godler, F.R.C.S. *(Lancet, Jany. 12,)* gives an account of the following case which he says is identical with the "acute rickets" of the Germans. The patient was a girl eleven months old, and on admission to the hospital presented these symptoms. Very pale, anemic, lying helpless on the lap, crying on the slightest movement of the lower extremities. There was exaggerrated beading of the ribs, very widely open fontanelles, protruding abdomen, enlargement of the bones at the wrists. The legs presented "lumpy swellings," and were unsymmetrically distorted. There was found complete separation of the upper and lower epiphysis of the bones of both legs, and a similar separation of the lower epiphyses of both femurs. The limbs could be twisted in almost any position but with great pain. Some edematous swellings existed along the bones.

Liver and spleen were normal. No other symptoms present except an intertrigo of the labia. The legs were straightened and held so by means of sand bags. Syrup. Ferri Phosphat., Ol. Morrhuæ and lemon juice were ordered. There was rapid improvement, and in two weeks the epiphyses were completely united to their shafts, and the legs could be manipulated without pain. Five months later the child was stout and hearty, showing only the common signs of rickets. The child was hand-fed, being reared at first on condensed milk, then cows' milk; at three months sago was given; at six months nursery biscuits twice a day. Up to this time there was no vomiting, but diarrhœa had been present since the beginning of the first illness two months before. Pain, at first supposed to be rheumatic, had been present in hips, knees, shoulders, ankles and feet. During her illness she had been able to raise her head but not her back, as had been noticed in other cases. Three weeks before admission she had sub-conjunctival and orbital hemorrhage. The swellings were stated sometimes to diminish for a time, and then suddenly increase. There was no evidence in the child or in the family of syphilis. The author calls attention to the fact that these swellings had been found by another writer to consist of blood effusions beneath the periosteum and between the epiphyses and the shafts of the bones. L. EMMETT HOLT, M. D.

Congenital Absence of Jejunum, Ilium and Greater Part of the Colon.—William Thomas, F.R.C.S., *(Lancet, Jany. 12)*, reports a case in a seven months old child, which lived two days. Persistent vomiting existed during life. The stomach was normal except contraction at the pylorus. The duodenum occupied the greater part of the abdominal cavity. It was an inch and a half in diameter, distended, curved around the pancreas and terminates to the left of the spine in a blind extremity. The intestine commenced again by a blind portion of the descending colon and continued by sigmoid flexure and rectum to terminate in the vagina. The other abdominal organs were normal. L. EMMETT HOLT, M. D.

The Treatment of Pertussis by Carbonate of Iron.—W. H. O. Sankey, M. D., *(Birmingham Med. Rev., February,)* calls attention again to this remedy introduced into practice some thirty years ago. He administered the drug in cakes. In this way it is always well taken. He claims superior results from its use. He gives a grain for each year up to six years old, every three or four hours.

L. EMMETT HOLT, M. D.

Aconite in Diphtheria.—M. Chisholm, M. D., *(Canada Med. and Surg. Jour., February,)* reports several cases illustrative of the good effects of this drug, and sums them up as follows:

1. Aconite in minute doses frequently repeated depresses the sympathetic, and like cold contracts the vasso-motor fibres.
2. It has a selective action on inflamed parts because of their increased susceptibility.
3. This sedative effect is to conserve strength while its vasso-motor action is inflammatory.
4. In consequence of this two-fold action, aconite in the first stage calms the circulation, lowers temperature, lessens tissue charge, checks the spread of membrane and aids the elimination of the poison by the skin and kidneys.

L. EMMETT HOLT, M. D.

Examination of the Prepuces of New Born Male Infants.—Dr. H. F. Walker, *(N. Y. Med. Record, Feby. 23,)* in the majority of infants at birth there is adhesion between the mucous membrane of the prepuce and the glans; the orifice of the urethra and foreskin not differing much in size. When the preputial orifice allows it, which is in about one-fourth the number of cases, the agglutinated surface are to be separated with a probe. In the remaining three-fourths of the cases, either a very forcible or a cutting operation is necessary. The latter is preferable. All that is needful being to make a linear incision at the median line of the prepuce. In earliest infancy (9th day) the result is perfect providing care is taken that the foreskin heals so as to leave the glans exposed. The reason why this method is efficient is because the cuticular and mucous surfaces are then equal in development. In manhood it results in deformity; in childhood the result is doubtful. The necessity for attention to the infantile prepuce lies in the pernicious effect of phimosis upon the nervous system through childhood. It will need attention sooner or later, and the earlier remedied the better for the health of the child. Circumcision is not necessary, the operation described being simpler, as efficient and leaving a demonstrable foreskin.

J. VAN VORST, JR., M. D.

Sporadic Cretinism.—Mr. Bowlby, *(Medical Times, February 9,)* presented four specimens of this affection to the London Path. Soc. All were taken from fetuses or children dying soon after birth. The microscopical appearances in all were very similar. There was no evidence of ossification of the epiphyses. Between the bony shaft and epiphyseal cartilage was a well marked layer of connective tissue continuous with the periosteum. In none was there premature synostosis of the basilar process of the occipital with the sphenoid. In one case the thyroid gland was absent and there was an excess of fatty tissue at the back of the neck though no definite tumors. A point of especial interest in all the specimens was the extreme shortness of the bones of the extremities which was attributed to the ingrowth of connective tissue above referred to. In many of the bones marked curvature was present which was due probably to the early interference with the growth of the bone. He referred to the admitted resemblance between cretinism and myxoderma, and said that after the removal of the thyroid gland in young people growth had been arrested and a condition allied to myxoderma produced.

Fetal Rickets (?) (Cretinism 1.)—Dr. Barlow exhibited at the same meeting a specimen with stunted limbs, the chief feature being the defective, now formation of the primordial cartilage. so that the earthy salts when deposited did not present their usual arrangement. The growth of bones was limited as to length, but those formed from membrane were well developed. The epiphyses of the long bones were only relatively large and there was no proliferation of cartilage at the line of ossification as in rickets, At the upper line of ossification was a layer of fibrous tissue arising from the periosteum. The ribs were not beaded as in rickets but there was an investing sheath of bone round the end of the costal cartilage. There was marked changes at the base of the skull, being premature synostosis, a diminution of the cerebellar fossa and an ill-development of the cerebellum itself. The heart showed an open foramen ovale, an imperfect septum ventriculorum and no initial orifice. Thyroid gland normal, no fatty growths in the neck but much heaping up of fat through the subcutaneous tissues.

While not denying the assistance. of fetal rickets the author insists on a distinction between this class of cases and true rickets. It was a vice of conformation, not of nutrition, that was the cause of these cases. The absence of the thyroid gland was not an essential feature of the disease, nor was the accumulation of fat masses. He pointed out the necessity of further examination of the bones under the microscope. Mr. J. B. Sutton presented a fetal specimen illustrating the same condition. The special points shown were the extraordinary size, the very large head, and the thick but short stunted limbs. The entire length was twenty inches, of which the head was represented by six and one-half inches, the trunk by nine inches, and the legs by four and one-half inches. There was an excessive production of fat in the subcutaneous tissue over the body, limbs and face. The only visceral lesion was the enlargement of the thyroid gland to double its normal size. The base of the skull showed marked changes. Synostosis of the basilar suture, narrow foramen magnum, and a division into narrow fossa by firm ribs of bone. The ventricles of the brain were distended with fluid. The ribs were beaded, the scapulæ thick, the bones of the arms short and stout with enlarged ends. The lower extremities showed similar changes. Under the microscope there was absence of the rows of cells, constantly seen where cartilage is being connected with bone. There was a line of fibrous tissue between the shaft and the cartilage. In general, there was an outgrowth of membrane bone, with a lack of cartilage metamorphosis. L. EMMETT HOLT, M. D.

Ophthalmia Neonatorum.—Dr. Tiffany *(Kansas City Med Record, March)*, quotes Dr. Noyes as favoring the use of vaginal antiseptic injections previous to parturition, by way of prophylaxis. Rigid attention to cleanliness is to be insisted on as of the utmost importance. The discharge is to be washed away as it forms, every fifteen minutes, if necessary. The washing is to be done from the nasal side of each eye to prevent inoculation of the other, if it be not infected. Weak astringent solutions of alum, or zinc are advised, several times daily at first, less frequently later on. In severe cases, the surgeon is to apply a nitrate of silver solution (15½ per cent.) to the everted lids, being especially careful to medicate the retrotarsal folds. Eserine is not a reliable remedy. Canthotomy may be called where there is marked chemosis with a tendency to eversion of the lids.

Death of a Young Child from a Fly Blister.—Dr. Cathell *(Med. Chron., February)*, reports the case of a boy aged eighteen months, whose mother had applied a blister (4 in. x 2 in.) to the epigastrium, for five hours, on November 18, to relieve the bronchitis. On November 30, when first seen by Dr. Cathell, the child had a high fever and thready pulse. The blistered surface had become an inflamed sloughing ulcer. In spite of treatment the ulcer still continued to extend till the death of the patient December 27th. Another case is reported in which a blister one inch in diameter applied to the rheumatic shoulder of a strumous boy caused sloughing of the cellular tissue and death.

Practical Note on the Management of Chorea.—Dr. Hughes *(Weekly Med. News, March)*, protests against the expectant plan in this disease, holding that nature often fails to effect a cure. The removal of the child from the surroundings among which the morbid condition has developed, is essential. Excessive sympathy is to be avoided. Sufficient encouragement should be given to aid the child in attempts to suppress the movements by the exertion of will power. The will should be made to pass, even though ever so imperfectly, over the channels of another nerve conduction so that the "insanity of the muscles" may not become complete, pending efforts at physiological reconstruction. After the subsidence of the involuntary movements, their return must be guarded against by attending to the general systemic condition.

Fracture of the Femur in Children.—Dr. Holsburg, *(Med. and Surg. Reporter, March 8.)* applies a plaster of Paris dressing, then places the patient in a fracture box, somewhat longer than the patient, the side-piece on the side of the injury extending from below the foot to the axilla. On the inner side of the broken limb a side-piece extends well up to the perineum, while a third extends from the axilla to the ilium of the sound side. The patient can thus be transported with ease, has power to move the injured limb to a certain extent and is under perfect control at all times.

J. B. MCMAHON, M. D.

Skin and Sponge-Grafting Combined.—Dr. F. B. Robinson *(N. Y. Med. Record, Feb. 23.)* A healthy girl six years of age, was severely burned about the nates, vulva and thighs. Various applications were made, but the child continued to waste on account of the profuse suppuration. The following was successfully tried: The raw surface was made as clean as possible, then forty small skin grafts were placed on the surface and covered with correspondingly small and thin pieces of sponge, (which had previously been soaked for 36 hours in a solution of alcohol 200 parts, carbolic acid 20 parts.) Suppuration was partially suppressed for the time, and the temperature rose. The healing was marvellously rapid. Every three weeks additional grafts of both kinds were applied.

J. VAN VORST, JR., M. D.

Encephalocele.—Dr. William Gibb Dun *(Med. Jour. Feb.)*, showed a specimen of this condition to the Glasgow Pathological and Clinical Soc. taken from a fetus of seven or eight months. The tumor was occipital and about twice the size of the fetal head, and its contents consisted apparently of the greater part of the brain, the coverings being the cerebral membranes and the thinned and distended scalp.

Sub-Periosteal Hemorrhage in Infantile Scurvy.—Mr. Edmund Owen *(London Med. Times, Feb. 23.)*, records a case in a little girl of twenty months. She was anemic and lay moaning in bed. The right lower extremity was immensely swelled from sub-periosteal hemorrhage about the femur. The skin was white, tense and glistening but not hot. The gums were swollen, spongy and bleeding. The child had been reared on condensed milk and other patent foods. The surface of the femur, explored with trocar and canula, was found extensively stripped of its periosteum but there was no suppuration. Under anti-scorbutic diet rapid improvement took place. He speaks strongly against the general employment of condensed milk.

L. EMMETT HOLT, M. D.

The Possibility of Pulmonary Collapse after an Infant has Breathed, (Editorial, *N. Y. Med. Record, March 8.)* Zeller 200 years ago noticed that pulmonary collapse took place in infants after they had breathed. The fact is undoubted, but the explanation is not easy. Maschka thinks that cries and other sounds can be produced by a small quantity of air in the trachea and larger bronchi, without the entrance of air into the lungs. Thomas suggests that the inspiratory efforts may be more feeble than the expiratory, so that more air is expelled than inhaled, while the elasticity of the lungs drives out the residual air, the lungs then returning to their prenatal condition. Bartels' theory confirmed by the experiments of Lichtheim is, that in atelectasis, the air of the compressed portion of the lung is absorbed from the alveoli by the capillaries. Dr. Unger, of Bonn, has succeeded in producing atelectasis in young oxygen-breathing animals by poisoning them with curare and making pressure upon the chest and abdomen so as to aid the expulsion of air and restrain the inspiratory movements. The degree of atelectasis varied with the degree of artificial aid to expiration and hinderance to inspiration. From these facts it cannot be said with certainty that when air is not found in an infant's lungs that it has not breathed, only that there is not any evidence of its having done so. Also that the presence of a little air in the vesicles is not any proof in itself that the respiratory efforts were weak or of very short duration.

Diphtheritic Croup Treated by Solvents and Tracheotomy.—(Read before Obstet., etc., Section, N. Y. Acad. of Med.) Dr. J. L. Smith *(N. Y. Med. Record, March 8.)* For inhalations he used one part of Liquor Potassæ to fifty of lime water, the latter to contain an excess of lime so as to be turbid. An atomizer throwing a powerful spray should be used. If improvement did not take place in four days, the case was usually fatal. According to his experience one in eight recovered. Tracheotomy should be done when the cough and hoarseness increased, the voice feeble and respirations labored. The average of recoveries was from 12 to 39 per cent. The disease having changed within the last three or four years and with the improved methods of operating, the recoveries might be expected to reach one in three. In the discussion which followed, Dr. S. M. Roberts thought that the operation should be done as soon as the respiration became labored. Dr. C. A. Leale would only perform the operation as a last resort. Dr. F. Lange regards the operation only as a symptomatic remedy, just carrying the patient over a difficult point at the time of the operation. He had operated 32 times with 11 recoveries. He had tried to get along without the canula, but had failed.

Diagnosis between Belladonna Rash and Scarlatina.—Dr. S. R. Sperry, *(N. Y. Med. Record, March 1.)* A girl aged three years was ordered to take for a sore throat one minium Tr. Belladonna every hour. After having taken four doses Dr. S. was called to see her, being told that she had broken out with scarlatina. He found her crying with intense *irritation* of the *skin.* The rash was decidedly punctate, which Bartholow states to be diagnostic of belladona rash. A little syrup of Dover powder and a weak carbolic acid wash cured in twelve hours.
J. VAN VORST, JR., M. D.

Artificial Koumyss.—The *Medical Press, Feb. 20,* gives the following cheap and ready way of preparing this substance which has proven so valuable in the gastro-intestinal disorders of children :

Take of fresh cows' milk, one gallon.
Koumyss, one quart bottle.
Pounded loaf sugar, two ounces.

Put in a flat open dish and submit to moderate warmth for twenty-four hours, excluding dust by a covering of thin muslin. Care being taken that it should not be too hot. It should then be bottled in champagne bottles, and the corks wired. Future brews can be obtained without the purchase of a second bottle, as one of the home-made will answer equally well to set up the fermentation changes.

Recovery from Carbolic Acid Poisining.—F. H. Oliver *(Brit. Med. Jour. Feb. 23),* records a case of a child two years of age who swallowed about half an ounce of McDougall's "Patent Sewerage Carbolic Acid" containing about 30 per cent. acid it was estimated. In ten minutes there was insensibility, and contracted pupils, muscular relaxation, coldness of the surface, discharge of frothy mucus from the mouth. Olive oil in large quantities was given, an emetic and stimulants. Later there was external strabismus of the right eye. A laryngitis and bronchitis subsequently developed from which he gradually recovered.

Hematoma (?) of Axilla.—Incision, *(Indian. Med. Gazette, Jan. 1884.)* A native child, aged four years, was admitted to the hospital with a tumor in left axilla, noticed first when the child was a few months old. It was now increasing in size and had attained the size of an orange. About two ounces of blood was evacuated by a trocar, and finally an incision was made and three ounces more turned out. The blood was fluid. No ruptured vessel could be found, but two small cystic axillary glands which were removed. The patient recovered. No cause was known for the tumor.

Convulsions in Pneumonia.—In the St. Bartholomew Hosp, *(Medical Press, Feb. 20,)* reports the details of a case of lobar pneumonia at the right apex are given. The patient was a girl of six years. The symptoms of invasion were mostly cerebral; vomiting, delirium, and general convulsions which were several times repeated. No abnormal physical signs were present until the third day and none characteristic of pneumonia until the fourth day. The disease terminated by a crisis on the seventh day and the case made a prompt recovery.

Malignant Scarlatina.—J. J. Marsh *(Brit. Med. Jour. Feb. 23)*, reports a case under the above diagnosis. A boy aged four and one half years was seized with a convulsion. In the course of the next afternoon nine more occurred, the last continued for twelve hours when he died. Scarlatina was prevailing in the neighborhood.

Apormorphia in Infantile Convulsions.—Edward Cotterell, M.R.C.S., *(Medical Press, Feb. 27)*, reports a case in a child eighteen months old, in which two minims of a two per cent. solution were given hyperdemically. In one hundred seconds free vomiting was produced with very little effort. The convulsions immediately ceased. The cause was a meal of greens and potatoes.

L. EMMETT HOLT, M. D.

Passage of a Penny through the Bowels.—Dr. A. Ten Eyck *(N. Y. Med. Record, March 1,)* reports a case of a child aged two years, who accidentally swallowed a penny, which was not passed until six months afterward.

J. VAN VORST, JR., M. D.

Papers to be presented in the "Section of Diseases of Children" at the American Medical Association to be held in Washington, May 6th—9th, 1884.

1. Infectious and Contagious Diseases of Children. By WM. LEE, M. D., Baltimore, Md.

2. Significance of Bloody Discharges from the Bowels in Young Infants. By FRANK WOODBURY, M. D., Philadelphia.

3. Septic Jaundice of Children in Parturition. By M. P. HATFIELD, M. D., Chicago, Ill.

4. Congenital Encephalocele. By JOHN H. DUNCAN, M. D., Kansas City, Mo.

5. Diphtheria, based upon Analysis of 120 Cases with a Mortality of Seven. By J. W. BROWN, M.D., New York.

6. Some Remarks on the Feeding of School Children. By LOUIS ATLEE, M. D., Philadelphia.

7. Enlarged Tonsils, and how they should be Treated. By DUDLEY S. REYNOLDS, M. D., Louisville, Ky.

8. A Unique Case of Hydrencephalocele. By GEO. W. RACHEL, M. D., New York. (To be read by J. H. TYNDALE, M. D., New York.)

Papers are also promised by W. T. PLANT, M. D., Syracuse, N. Y. ; S. L. JEPSON, M. D., Wheeling, W. Va., and J. N. HYDE, M. D., Chicago, Ill.

WILLIAM LEE, M. D., *Chairman.*
W. R. TIPTON, M. D., *Secretary.*

THE

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Original Communications.

A NEW METHOD OF TREATMENT OF ANGEIOMATOUS GROWTHS.

BY HENRY O. MARCY, A. M., M. D., OF BOSTON.

Although relegated to the domain of minor surgery, there are few surgeons who have not often met with cases of angeioma which have given great difficulty in the cure, and, when effected, have left very unseemly cicatrices.

Owing to the uncertainty of the ligature and the resulting deformity, many have advised the careful dissection of the vascular tumor, retaining the skin which, although discolored, will, after a time, fade out, and by this means lessen the resultant deformity.

I know of no method having been advocated for the application of the ligature by which it has not been designed to secure complete destruction of the enclosed tissues. It is the knowledge of such destruction and the consequent deformity from cicatricial contraction which has caused the operator to include as narrow a limit of the tissues as may be deemed practical, preferring a second operation to an over-large slough. On this account the operation often proves a failure.

In most instances, even in a rapidly-growing nevus, there will be found a proliferating re-inforcement of the connective tissue upon the borders of the vascular zone, as if nature was endeavoring to erect a barrier against a farther spreading of the disease. Not to include this in the measures devised for constriction means failure, and in a short period the cicatrix may be found borne upon the top of a rapidly spreading erectile growth.

For a considerable period I have applied for the cure of a variety of vascular growths a suture which I have called "the shoemaker's stitch," since it carries, by means of a long needle set in a firm strong handle, the ends of a suture from opposite directions through the same puncture. The eye is placed near the point which is without cutting edges. Armed with the ligature the needle is thrust deeply under and quite away from the vascular growth; emerged from the distal side the ligature is detached and the opposite end threaded, when it is withdrawn and again inserted purposely only a short distance from the first puncture, since it is important to include only a comparatively small portion of tissue. Thus the process is repeated, stitch after stitch, until the entire mass is enclosed and the fixation is completed by a single knot. In this way uniform and steady pressure can be attained and maintained as long as is desired.

The purpose of the procedure is not to strangulate and cause necrosis of the tissue, but to constrict so as to reduce to the minimum the circulation and yet preserve its integrity. The use of the stitch as here described was first devised and put in practice by myself, some years since, for ligating the uterine stump after the removal of the organ, where I had felt it very undesirable to have necrosing tissues shut up within the abdominal cavity.

A brief description of a case operated on in the above described manner will serve best as an illustration:

A child about eighteen months old presented a rapidly proliferating nevus upon the right side, posterior to the axillary line, involving the sixth and seventh intercostal spaces. Its diameter from above downwards was about two inches, while its long axis parallel with the ribs was three inches, and it was elevated about one inch above the surrounding parts. About half its size was covered with a cicatrix, resultant from an operation undertaken for its cure three or four months earlier.

I made two incisions through the skin parallel to the long axis of the tumor and enclosed the mass as above described.

Upon the completion of the operation the tissues enclosed were a deep purple, which slowly faded to a dark pink upon the fifth day when the stiches were cut away and a rubber bandage applied over the compress in order to hasten the absorption of the firm, hard mass remaining.

This slowly supervened and there is now, two years after the operation, the cicatrix resultant from the first operation and the two parallel lines showing the incisions through the skin. The incision through the skin very probably renders the constriction less painful, but I would advise the sewing without incision in operating upon the face or exposed portions of the body, since there would result at the most only the puncture points to mark the location of the angeiomatous growth.

I am well aware that there are locations where the application of a suture, as here described, might be very difficult or impossible, but I am assured that in most instances the application can be made much more easily than the complicated ligatures devised by the late Sir William Ferguson, or its modification as used by Mr. Erichsen.

TREATMENT OF FRACTURES OF THE FEMUR IN CHILDREN BY PLASTER-OF-PARIS BANDAGES.*

BY JAMES BELL, M. D.,

Superintendent of the Montreal General Hospital, Montreal, Canada.

Mr. President and Gentlemen:—I have nothing original to bring before you to-night, and the few reports which I am about to read hardly deserve the dignified title of "Paper" for this society. Moreover, my cases, though interesting enough in themselves, are altogether too few in number to form a sound basis for any deductions. I have been led to exhibit these cases and to read the reports of them, however, chiefly for the reason that, as far as I can judge, there seems to be in the profession in this city either a dread of ill effects from Plaster-of-Paris as a permanent dressing for fractures, or a lack of faith in its efficacy; and I wish to elicit the opinions of the members of the society on the subject. Three cases which have quite recently come under my observation have afforded me this opportunity.

Case I. P— B—, a little boy, aged one and a-half years, fell from a window on the 12th of July last and broke his right femur in the middle third. He was a fat, chubby child, and the fracture was a simple transverse one and complete, the lower fragment being drawn up beneath and to the inner side of the upper one. We gave the child ether, and Dr. Reddy, who was in charge of the case, extended the limb while I applied the plaster. I first applied a bandage of sheet-wadding from the foot up to the groin, and continued with a flannel bandage around the pelvis and the lower two-thirds of the abdomen. I then applied a gauze bandage rubbed full of dry plaster and which was freshly soaked. I next smeared on some freshly-wetted plaster and applied co-aptation splints of pasteboard—an anterior, a posterior and two lateral—along the femur and in the layers of the plaster bandage. The simple, ordinary method of applying the plaster was continued—the extension being kept up in the meantime—until the whole limb was encased in plaster as well as the pelvis, and abdomen as high as the lower ribs. In ten minutes the plaster was sufficiently consolidated to permit the child being placed in bed, and in less than twenty-four hours the whole was perfectly dry. The plaster was applied two hours after the accident. The subsequent history of the case was uneventful. After three weeks the plaster had crumbled a little about the groin from the repeated wetting by the urine, and a little fresh plaster was applied over the upper third of the thigh and the groin but without disturbing the limb in any way. The plaster was finally removed on the 27th of August—six weeks and a-half from the date of the accident. The child was perfectly well throughout, and suffered neither pain nor inconvenience after the first twenty-four hours. The plaster might have been removed sooner, but that I thought, on taking into consideration the risks of a lively child of that age tumbling about, it was safer to give him an extra week or two in bed, especially as he was quite happy and not suffering in any way. There is now no deformity evident, even to the anxious parents; and as for shortening, I believe it to be impossible to determine accurately the relative measurements of the legs of this child without an anesthetic. I believe, however, that the shortening, if there is any, is insignificant.

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* Read before the Medico-Chirurgical Society of Montreal.

CASE II. W— McB—, a slight, delicate boy, aged four years, was run over by a heavy country dog-cart, containing four or five persons, on the 18th of August last. He was brought to the hospital, where I found that there was a single complete fracture (almost transverse) of the upper third of the right femur just below the trochanter. The upper fragment was tilted forwards and inwards and the limb lay everted and shortened. There was a good deal of bruising at the site of fracture and over the lower zone of the abdomen. The left hand was also bruised and abraded. The boy was subsequently removed to his home, as his parents declined to leave him in the hospital, and in conjunction with Dr. Reddy, who was the family physician, I applied a plaster bandage just as in the last case. The plaster was applied about three hours after the accident. The patient was attended by Dr. Reddy, who removed the plaster on the 2d of October—six weeks and a-half after the accident. He was well and comfortable during all this time, and suffered no pain nor discomfort of any kind. The bandage was "mended" in the groin where it had cracked after about three weeks, but was otherwise undisturbed from its application to its removal. This boy at the present time (seven months after the accident) runs about without restraint and without any halt in the gait, except when he is tired towards evening. He then sometimes limps a little. There is very slight eversion of the foot and less than half an inch shortening of the limb. Some time after the removal of the plaster he was brought to me with a firm flat tumor in the front of the thigh. It was painless and evidently in the muscle. It appeared to be about an inch and a-half in diameter and three-quarters of an inch in length, and had free lateral movement. It was probably situated in the sartorius or rectus femoris, and due to the original injury. It disappeared without any special treatment.

Case III. W— B—, a strong, healthy boy, aged eight years, was brought to the hospital by Dr. Molson on the 26th of January last. He had fallen from a hay-loft, a distance of ten or fifteen feet, and had broken his thigh-bone in the lower part of the middle third. The fracture was a simple one, and nearly transverse as far as could be made out. It was complete and the bones were siding. The limb was shortened and everted. He was anesthetized with ether, and plaster applied as in the preceding cases.

As I was short of assistance, and my nurse was a novice at preparing the plaster, I did not get as good a bandage as in the other cases, and it required a little mending in two or three places in a couple of days, but the position of the limb was never disturbed. The splint was applied about four hours after the accident. He suffered no pain nor inconvenience after the first two days. He passed from under my control in the third week, but the plaster was removed on the first of March, just four weeks after the accident, and he was discharged from the hospital on the 15th of March—two weeks later. There is no eversion of the foot and less than half an inch of shortening.

Now, Mr. President, I have very little to say on this subject, except that on theoretical grounds I believe this to be the best form of splint for a simple fracture of the shaft of the femur and that my limited experience continues to hold out this view. When the muscles are all relaxed by an anesthetic, intelligent assistants can arrange the fragments of bone in the best position and keep up a proper degree of extension, and I know of no means of applying (without the slightest fear of displacement) co-aptation splints to retain them in this position equal to the Plaster-of-Paris. If properly applied it sets so rapidly that there is no necessity of changing assistants or resorting to any mechanical means of extension during the operation, and when once set there cannot well be any change in the position of the bones. The extension is kept up by the plaster on the foot, and the counter-extension by the portion applied to the pelvis which distributes it pretty equally over the pelvis, buttocks and loins. The objections urged against it I know are not without weight. The question of swelling of the limb at the site of fracture is, I think, much over-estimated. Any swelling which occurs, occurs early and soon disappears. It is a very common experience to find that, after the ordinary co-aptation splints have been applied with extension for twenty-four or forty-eight hours, they will have become perceptibly slackened, and that they usually require tightening up after a few days. The skin can be properly protected throughout by a thin cotton, wool or flannel bandage. As evidence of this, in no one of these three children was there the slightest abrasion of the skin when the plaster was removed. The fact of the limb being placed quite out of sight is, I think, also over-estimated. I don't think that anything can go wrong which will not produce symptoms sufficiently clear to the intelligent and observing surgeon to guide him as to whether he will remove the plaster or not. Finally, compare these objections with the difficulties of keeping the bones in position by any of the ordinary methods, especially in children and fidgeting people, the dangers from sloughs caused by extension-straps, pressure of splints, inclined planes, etc., and the difficulty or impossibility of keeping up the proper degree of extension for the requisite time. In conclusion, sir, I will formulate the following proposition for discussion; that in Plaster-of-Paris we have the material for a splint, for fracture of the shaft of the femur, which is safe and comfortable, and which, if properly applied, gives better results than any of those at present in use; that it is specially suitable for comminuted fractures, fractures in children and restless people, and the poor who have not comfortable beds, which are so essential to the success of the ordinary method of treatment by extension and co-aptation splints.

Clinical Lectures.

EPILEPSY: ITS TREATMENT. EPILEPTIFORM CONVULSIONS, PROBABLY DUE TO THE RETENTION OF AN ORANGE SEED IN THE GASTRO-INTESTINAL CANAL. INCONTINENCE OF URINE.

A CLINICAL LECTURE DELIVERED AT THE JEFFERSON MEDICAL COLLEGE HOSPITAL.

BY ROBERTS BARTHOLOW, M. D., LL. D.,

Professor of Materia Medica and General Therapeutics in the Jefferson Medical College. Reported by William H. Morrison, M. D.

GENTLEMEN:—The first case which I shall submit this morning is this boy, eight years of age, who began, when four years old, to have attacks of epileptiform convulsions. These are increasing in frequency. He has the two varieties of the disease, the *petit mal* and the *grand mal*, that is to say, the light and the severe forms. He has attacks of momentary loss of consciousness with twitching of a few muscles, and he has attacks of more marked unconsciousness with general convulsions of a violent character.

The first question is as to the cause of these attacks. A consideration of this point must precede any rational attempt at relief. There is a history of a fall, after which the convulsions came on. On investigating this point it is learned that the fall produced no immediate results. There is no apparent injury to the head. This is an important point in these cases of epileptiform convulsions.

An old head-injury is, at times, the cause of the trouble. Then arises the question of trephining. From this operation remarkable results have been obtained in some instances. I feel confident, however, that the fall which this boy met with has not been concerned in the production of the attacks.

Another condition which the mother thinks had something do with the attacks is the child's voracious appetite. His appetite is insatiable. He has a canine appetite; in other words, *boulimia.* No matter what he eats, it appears to agree with him. The constant occupation imposed on the stomach must keep up a reflex irritation which affects the spasm centre.

This being the only discoverable cause, our remedies must be applied in that direction. In every case of epilepsy, in the growing boy as well as in the adult, regulation of the diet is a matter of the first importance. The diet must be simple and composed of a few articles. Everything depends on the question whether or not this boy can be managed. Epileptiform convulsions affect the *morale* of all subjects, especially that of children. They become peevish, irritable and destructive, and are controlled with difficulty. I do not know whether the destructive tendency is manifested in this boy or not, but the expression of the face, the form of the head and the shape of the ear would seem to indicate this. The moral condition is partly the result of the neuropathic state and partly of the attacks. They become so difficult to manage that regulation of the diet is difficult. The strength of mind of the parent is rarely adequate to control the child even when it is under observation. When the child demands food which, under ordinary circumstances, seems appropriate, it is difficult for the parent to say "no." The degree of control possible is of importance in forming an estimate of the ultimate result of treatment. Again, being subject to such a disease, the sympathies of the parents are enlisted in an unusual degree, so that they are unwilling to exert any moral control. We can hardly over-estimate the importance of this moral control, of the influence of a superior will, and the power of the individual will over the functions of the body. If the parents can exert this moral control, you can promise to achieve much better results than if they are unable to influence the habits, disposition and conduct of the child. In the present case, judging from the form of the head and the expression of the face, I should say that this was a boy not easily handled, and that the parents find it difficult to exert the needed authority.

The first thing, then, is the regulation of the diet; the next is the exercise of a proper moral control over the child. These matters being attended to, what next? Although the lips of the child are red, he has otherwise an anemic appearance. His development is imperfect; he is eight years old, but not large enough for his age. Great attention must be paid to his bodily development, to the diet, to proper exercise in the fresh air, and to all the conditions of a suitable hygiene.

Should such a boy go to school? Should he be permitted to pursue his studies? I think that the regular life at school may be of great benefit; but such a subject is injured if exposed to teazing and other annoyances from older children; regular application of the mind favors its healthy growth. My instructions in such cases are that the education be pursued regularly, not forcing the mind, but giving it proper development. The mind allowed to lie fallow takes abnormal directions, like a tree, which, when allowed to grow up without proper culture, assumes irregular shapes and appearances. The mind of a growing child without any regular training will develop abnormally, will have some mental or moral peculiarity. The mind should not be pushed, but it should have regular occupation. As the public schools are too exacting, and the associations too exciting, it would be better in this case to have the child educated at home under competent instructors. There are also small private schools where the proper training may be obtained.

Having attended to these matters, we come to the question of remedies. Have we any remedies which will control these attacks and not interfere with proper bodily development? In this case there are two which would be of great service. The one is bromide of sodium, which should be given to prevent the attacks. The other remedy, and the one which I consider of next importance to the bromide, is picrotoxin. I shall direct forty grains of bromide of sodium per day, and one-one-hundredth of a grain of picrotoxin, morning and evening. At the end of the first month only one dose of picrotoxin will be given, and that will be administered in the evening. Forty grains per day of the bromide will be required for the first month, and after that thirty grains will probably suffice. It is important that the use of the remedies should be persisted in for a sufficient length of time; for if their administration is stopped too soon, the whole work has to be gone over again.

EPILEPTIFORM CONVULSIONS PROBABLY DEPENDENT ON THE RETENTION OF AN ORANGE SEED IN THE GASTRO-INTESTINAL CANAL.

Here is another case of epileptiform convulsions. This child when six months old had its first convulsion, two weeks ago. It is now having two seizures a day. The child is said to be cutting teeth, but its gums are not red and the teeth do not appear to be giving trouble. Nothing is more common than, when a child has any trouble, for the physician to lance the gums. Many parents expect this and are not satisfied unless it is done. As a rule, the gums have nothing to do with the trouble. Rarely there is a case where the gum is stretched across the tooth and causes irritation. You are aware of the close connection which exists between the nucleus of the fifth nerve and certain great nerve centres, especially the spasm centre; but, notwithstanding this, the developing teeth are rarely responsible for attacks of this kind. In the present case there certainly is no irritation proceeding from the mouth.

Is there any other cause for these attacks? I learn that two weeks ago and before the occurrence of any convulsions, the child was playing on the floor, where a number of orange seeds had been thrown and that it had some of these in its mouth. The mother thought that she had recovered them all, but it is very likely that some of them were swallowed. The attacks appeared immediately afterward. Some very curious accidents have occurred in this way. For instance, I knew a child who got an orange seed up its nares, in consequence of which it had epileptiform attacks. This seed began to sprout, and an orange-tree actually began to grow, not, it is true, from a part of the nose, where it could be seen. The cause of the convulsions was not discovered until the child was taken to an oculist for some trouble with the eye, when he discovered the orange seed. He removed it and the attacks ceased from that time. An orange seed may be still in the intestine, for I have known articles of that kind carried for weeks and months. This may be the source of irritation and the cause of the convulsions.

Such being our view of the case, the first thing to be done is to thoroughly evacuate the contents of the intestinal canal. The best agent for this purpose will be calomel in half grain doses rubbed up with a little sugar. This may be given once a day for three days. If the calomel has not acted efficiently by that time, a dose of castor oil should be given. Although the original source of the reflex excitement is removed, it does not follow that the spasms cease. In the neurotic type, a habit of spasm, so to speak, is readily formed.

The bromide of sodium will be found very useful in arresting the convulsive movements if they exist. It may be advantageously combined with chloral. Both of these remedies have the effect of diminishing the irritability of the spasm centre; and as children bear chloral exceedingly well, I combine the two agents, giving two grains of chloral and ten grains of bromide of sodium morning and evening.

INCONTINENCE OF URINE.

This colored boy of fourteen has had incontinence of urine for most of his life. This is a malady that has to be looked at from several points of view.

First as to his bodily constitution. There appears to be nothing peculiar in that. He has the neurotic type, it is true, but that would not be sufficient to account for the trouble, although it favors its production.

Many cases are due to a condition which we find here. The bladder acts in this irresponsible way because it is unduly stimulated by the urine. In this case the urine is intensely acid. That is unquestionably a factor in the production of incontinence. The acid urine keeps up a constant irritation of the mucous membrane. Of course, if the sphincter of the bladder acts in a normal manner, there cannot be incontinence, no matter how irritating the urine may be. The office of the sphincter is partly voluntary and partly under the control of the sympathetic system, so that, under normal circumstances, the urine does not flow away when the attention is taken from the bladder. When it is desired to empty the bladder, every person is conscious that the effort is partly voluntary;—the flow of the urine is solicited by relaxing the sphincter. In this case, during sleep, the sphincter relaxes of itself and the urine dribbles away.

We have then two factors, the acid urine and relaxation of the sphincter. There may be still a third condition; namely, an abnormal contractility of the muscular layer of the bladder occurring during the period of sleep, and the will not being in action, the sphincter is overpowered. If there is this spasmodic contractility of the muscular layer of the bladder, the cause of it is, in all probability, to be found in the condition of the urine.

The acid urine continually acting on the mucous membrane keeps up by a reflex effect and causes spasmodic contractions.

To these three factors a fourth might be added. There are but few cases of this fourth variety. Incontinence, or what is called incontinence, sometimes occurs because the person habitually dreams of passing water whenever the bladder is full. He feels the impression of the urine, but the sphincter still maintains its control. It is the brain which is at fault. The subject dreams that he has an inclination to pass water and that he steps aside to some convenient place and empties the bladder. The treatment of such a case is different from that of the others. This patient does not dream of passing water. The condition present in his case are, first, an acid condition of the urine, second, weakness of the sphincter, and third, spasmodic contraction of the muscular layer of the bladder.

In order to overcome the acidity of the urine, I prescribe the persistent use of some alkali, preferably an alkaline salt of potassium. Nothing is better than the bicarbonate in the form of an effervescent draught. We next need to give some remedy which will keep the sphincter in action. The best for this purpose is ergot. I will order a pill containing one-fourth of two grains of aqueous extract of ergot, and with this may be combined advantageously one-fourth of a grain of extract of nux vomica.

A third thing may be done, that is, diminish the contractile power of the muscular layer of the bladder, and the best remedy to accomplish this is a bromide. This will be given in a single dose at bed-time to lessen spasmodic action. A bromide is particularly indicated in those cases in which the patient dreams of passing water.

If the patient were anemic we could not do better than prescribe the iodide of iron, which, under such circumstances, is of decided benefit.

Notwithstanding the fact that this case has lasted a long time, I venture to say that, under the use of the remedies suggested, a marked improvement will be noted.

Clinical Memoranda.

A MALFORMED HEART.

BY E. S. MCKEE, M. D., CINCINNATI, OHIO.

Two abnormalities were noticed in this child immediately after delivery, which was quick and easy, viz., a very great occipito-mental diameter and morbus ceruleus. The child, however, did nicely, and the latter condition soon disappeared. On the third day after its birth a messenger came for me, saying that " the baby is queer, it has convulsions and don't notice anything." On my arrival, I found that the convulsions were mere twitchings. The bowels being constipated, ordered a mild laxative. On the sixth day, the child refused the breast, and I discovered the existence of aphthæ. Eighth day, the twitchings and the aphthæ were both worse, and there was also slight facial paralysis. Tenth day, aphthæ and twitchings had yielded to treatment, and the child was apparently much better. Fourteenth day, child very weak and dull; does not move; tendency to lie with its head on the right side all the time. Bowels constipated, and has refused breast for several days, and eats from spoon with reluctance. Hands, feet, and lips slightly cyanosed. Lies all the time quietly in one position. Fifteenth day, died at 10 A.M.

Autopsy, fourteen hours after death :—

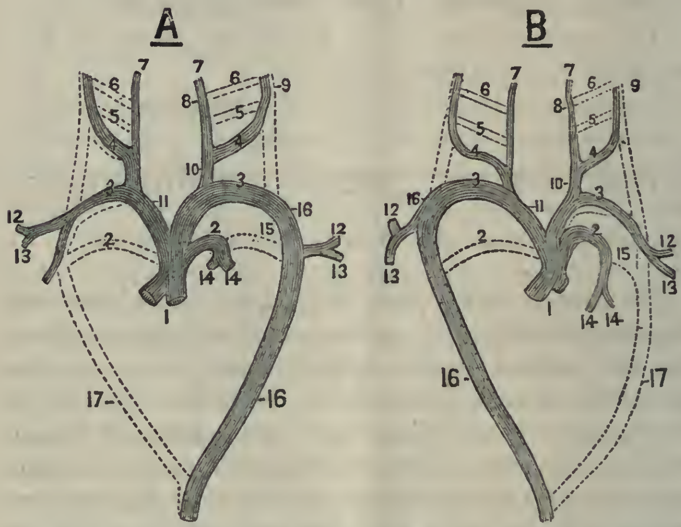
Head somewhat enlarged. Calvarium and meninges healthy. Both lateral ventricles (distended ¼ inch) filled anteriorily with clear serum, and posteriorily with puriform and softened brain-material; third and fourth ventricles nearly normal. On the under surface of the brain, the pia mater covering the pons, cerebellum, and medulla were covered with flakes of lymph. No sign of tubercle could be discovered. Lungs normal.

The cause of death was determined to be an acute attack of Chronic Hydrocephalus.

An examination of the heart showed no excess of fluid in the pericardium, organs of average size, but, on examination, the right auricle was found somewhat enlarged. Left auricle very small internally, but admitting the pulmonary veins. Internally, valves all normal. The septum between the ventricles was incomplete in its upper part and opened into one common artery, the aorta, closed by three semilunar normal valves. The orifices of the two coronary arteries lay behind the two anterior valves. Both ventricles normal. Foramen ovale patent, but closing. The remains of the pulmonary arteries consisted in an upward prolongation from the right ventricle, and a tube, which opened above into the aorta, was separated from the infundibulum below by a membranous septum. Above this were three depressions, marking what should be the location of the pulmonary semilunar valves. The aorta ascended one-half an inch, and there bifurcated,—forming two large branches, the larger one passed over the right bronchus downwards,—having hooked beneath it the right recurrent laryngeal nerve, to gain the right side of the vertebral column; the other passed above the left bronchus, curved downwards, and became the descending aorta. That on the left gave off an innominate which gave off the common carotid and subclavian; it then continued as a large artery, corresponding with that on the right side, but smaller in calibre, terminating behind and below the bifurcation of the trachea into two parts, each subdividing into numerous branches, carrying blood supply to each lung.

The larger branch gave off the right common carotid and right subclavian, and then the intercostals. No trace of the ductus arteriosus could be found. Other viscera normal.

In this illustration, A shows the normal development of the aorta and great vessels. B shows the change in this case, and the probable mode of its development.



A shows the normal development of the aorta and large vessels. B shows the change in this case and its probable development. 1, Aortic bulb; 2, 3, 4, 5, 6, on either side the 5 pairs of aortic arches; 6, 6, The earliest in their appearance; 2, 2, The most recent; 7, 7, The two carotids united in the earlier period separated in the later; 8, External carotid; 9, Internal carotid; 10, Common carotid; 11, Innominate; 12, 12, Vertebral arteries; 13, 13, Subclavian arteries; 14, 14, Pulmonary arteries; 15, Ductus arteriosus; 16, 16, The aorta; 17, The arterial canal, which is obliterated.

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A CASE OF FATAL UMBILICAL HEMORRHAGE.

BY D. E. SIBERT, M. D., SOUTH HILL, ALA.

The patient was an infant only about thirty hours old. The accoucheur, an old and cautious practitioner, noticed nothing unusual in the case at birth, excepting the uncommon size of the cord, which had a diameter of three-quarters of an inch or more, but appeared firm and healthy. He states, also, that there was unusual excitement in the cord, on account of which its ligation was delayed, but the pulse soon became normal, when the cord was firmly tied and severed, and the bandage applied. At what time the bleeding began could not be ascertained with certainty, as the bandage was saturated with blood before it was discovered. I saw the child twenty hours after birth. The abdominal bandage, diaper, and clothing were saturated. The little patient, a superb female child, was very pale from loss of blood. Pulse at wrist imperceptible. Carotid pulsation faint and wiry. Upon examination of cord, which had been re-tied, and bleeding arrested by a neighbor lady, nothing abnormal was discovered. It was supposed that the ligature first applied had either cut through or slipped off the cord, as it was not found upon the removal of the bandage. The blood-stains upon the clothing were of a bright light red, but in the creases about the genitals where it had collected in little pools it was very dark and thin; not a coagulum, nor the appearance of it, was found. Assuring myself that the second ligature was secure, I had the bandage carefully re-applied under my own supervision, and left, directing it to be constantly watched, and assistance sent for at once should the hemorrhage re-occur.

After some time it did re-occur, and continued until the infant died, no assistance being available. The duration of the hemorrhage was probably about twenty hours.

That the hemorrhage was due to a condition of impaired or feeble coagulability of the blood is evident, from the absence of coagula upon the clothing and in the pools that had for some time been exposed to the air. The origin of the dyscrasia is not apparent in this case. There is no history of syphilis in the parents; no evidences whatever of the hemorrhage diathesis in either; no indication in the appearance of the patient of the presence of cachexia; on the contrary, it was a very plump and healthy-looking babe—no pemphigus, no petechiæ, no jaundice, no ecchymoses. The mother's health, during gestation, was bad.

It is with great regret that I have to chronicle this fatal case, because I am satisfied that, had intelligent assistance been at hand—which, unfortunately, was out of reach—the application of a closely-fitting styptic compress, or a plaster-of-Paris cuirass, or, failing these, the insertion through the umbilicus of two needles at right angles to each other, encircling each with the figure-of-8 ligature, would have effectually arrested bleeding and saved the little patient's life. Again, had I been particular to instruct the nurse how she might, in the event of re-occurrence of hemorrhage, pinch up the umbilicus between her index fingers and thumbs, and by firm and patient pressure stay the ebbing life until the arrival of assistance, I confess that my regret for the issue would have been less poignant. It is because these fatal cases are rare, and for this reason are apt to take us unawares, and because I wish my professional brethren to bear in mind the possibility of their occurrence, their very unfavorable prognosis, and the most important measures for their relief, that I have asked the privilege of recording the above case.

Translations.

BY AND. F. CURRIER, M. D.

New York.

Parrot: "Typhoid Fever in Children." (*Jahrb. f. Kinderh.* B. XXI. H. 3.) Translated from the original contributions in the *Progrés Médicale*, Nos. 24, 26, 27, 29, 1883.

The German translator of this work justly remarks that it is the result of acute and extensive clinical observation, supported by abundant familiarity with, and reference to, the existing literature of the subject, and by sound therapeutic ideas. The early death of its author is ever to be lamented. In Parrot's opinion, typhoid fever in children shows in its course and phenomena a particular character. He thinks that its existence in children under six months of age is questionable, though during the second six months of life there are undoubted cases of it. His extensive tables show that its greatest frequency is between the fifth and fourteenth year, and in the male rather than in the female sex. Infection may occur by contact of a nursing child with its mother, but whether through the agency of the milk or not, the author fails to say. As to the phenomena of the disease, the following points are worthy of notice: (1) As to the digestive apparatus. Angina may be a precedent condition, with decided inflammatory developments. It may, indeed, last during the entire period of fever. Vomiting is frequent. The stools in infants resemble those of diarrhœa, are yellow, and odorless. From the age of eighteen months onward diarrhœa is not common, and the Peyerian glands are not often ulcerated. Enlargement of the spleen is not a constant symptom, and loss of appetite is less frequent than with adults. (2) Cutaneous symptoms. The roseola is less pronounced than in adults, and in very young children may be entirely wanting. The same may be said in regard to herpes labialis. (3) Circulatory apparatus. Nose-bleed and intestinal hemorrhages are both infrequent. The condition of the pulse is not of that diagnostic importance which it is with adults. Dicrotism is occasionally observed in cases which occur about the time of puberty. (4) Respiratory apparatus. The younger the child the less the involvement of this apparatus. In some cases bronchitis may exist. (5) Urinary secretion. There is sometimes a small quantity of albumen in severe cases in children who are approaching puberty. (6) Nervous system. The symptoms of this class are not usually pronounced. Headache, delirium at night, and convulsions are occasionally observed. (7) Temperature. Knowledge of this condition is important, especially in view of the negative evidence from the pulse. The younger the child, the less elevated is the temperature likely to become. It is subject to variations and irregularities as it is in adults, and the more frequent or pronounced these fluctuations, the less favorable the prognosis. (8) Duration. This is usually briefer than in adults. (9) Recurrence. This is rarely seen, but some cases have been reported. The course, in recurrence, is usually mild. (10) Convalescence. This occurs slowly in very young children, more rapidly in those who are somewhat more advanced. (11) Weight of the body. Gerhard and Thaon are quoted to the effect that the weight is increased during the first two or three days of the disease, and then quickly diminishes. In nursing children the loss of weight is less decided, for the thirst which is peculiar to the disease calls for increased nourishment, and again, the muscular system at that age is not greatly developed. (12) Complications. Pneumonia occcurs rather more frequently than among adults, beside which only parotitis it mentioned. (13) Results. Sudden death has occurred in some cases which are quoted, but Parrot thinks that such results must be very uncommon. (14) Pathological anatomy. The characteristic phenomena are to be found in Peyer's plaques, and in the closed follicles. Ulceration in early childhood is rare. Cicatrization takes place more rapidly than with adults. The author does not consider that the swelling of the mesenteric glands implies much. Enlargement of the spleen is occasionally seen, less frequently hypostatic congestion of the lungs and gangrene of the same organs. (15) Diagnosis and differential diagnosis. The younger the child the more difficult the diagnosis. Angina and lobular pneumonia are first to be eliminated. Regard must be given to the fact that they often appear as complications; and this, with the close observation of the course of the temperature, will furnish a guide for differentiation. Miliary and meningeal tuberculosis, and enteritis, are also to be mentioned as resembling the disease in discussion. (16) Prognosis. In very young children it is very favorable; more so than in those of a later period. (17) Treatment. This should vary with the symptoms. Cold spongings or packings are more highly approved of than full baths of cold or gradually cooled water. Quinine and salicylic acid in large doses should be limited to the very severe cases. Nourishment in abundance, and of proper quality, is the main reliance in this disease, answering the double demand in children for strength and for means of development. Asses' milk is recommended as a proper diet for those infants who are not fed at the breast.

Kerschensteiner (Munich): Propagation of Measles, Scarlet Fever, and Smallpox. (*Arch. f. Kinderh.*, B. V., H. 5 and 6.)

The author adverts to the fact that school-instruction, especially in the public schools, has been frequently interrupted by the presence of various diseases, especially by the contagious exanthemata. As the result of a long and rich experience in the observation of these diseases, he feels warranted in laying down the following propositions. 1. By far the most common mode of infection, in smallpox, measles, and scarlatina, is by immediate contact with the sick individual himself. 2. The communication of the germ of these diseases, by third parties, occurs only exceptionally. 3. The dusting, beating, and cleaning of the clothes affords a means of transmission which is not to be disregarded. 4. The wearing, from motives of economy, of the clothes which were worn by a sick person, must be considered as an immediate means of transmitting the disease. 5. The most favorable conditions for infection exist during the periods of eruption and development of the exanthem and the less favorable during the period of desquamation. These propositions were submitted very extensively to the profession in Bavaria, and were in most cases endorsed. The practical deductions are that intercourse with the families of those who are sick with measles or scarlet fever need not be restricted; the brothers and sisters of the sick child need not be debarred from attending school, nor the physician isolated who attends such cases. Change and disinfection of his clothing by the physician is superfluous. Teachers need not keep out of school any but sick children, or those who are suspected, and need not concern themselves in regard to their brothers and sisters. Since infection usually occurs at the beginning of the period of eruption, teachers ought to exclude from school those in whom the disease appears to be beginning. If such children do not prove to be sick they can return again after a short time; if they are really sick the spread of an epidemic will be, to a certain extent, restrained. After the period of desquamation a physician's certificate should be given, when attendance at school is recommenced. The incubation period of measles being ten to twelve days, if other children are attacked within that period (from the time when the first scholar sickens), it will be proper to close the school, as an epidemic evidently prevails. In scarlet fever the case is a more difficult one since the exact period of incubation is not accurately established. Factors which favor the extension of these diseases, from infection at school, are overflowing classes, and incomplete disinfection of the schools. The investigations of the author also demonstrated that smallpox is seldom communicated by third parties, or mediate contagion, hence there is undue fear upon this subject, and the existing regulations should be modified. Clothes which were worn by one who is sick with smallpox are to be considered as a means of immediate contagion. The conclusion of the author is that efforts should be mainly directed against immediate contagion, and that the theory of mediate contagion with all that it involves is outworn. Investigations are now in order concerning the application of these facts to other infectious diseases.

Albrecht (Neuchâtel): **Regarding the Nature and Treatment of Scrofula, from the Standpoint of Recent Investigations Concerning the Influence of Bacilli.** (*Arch. f. Kinderh.*, B. V., H. 5 and 6.)

The author defines scrofula, in the terms of Baginsky, as an excessive vulnerability of all the tissues, especially the skin, the mucous membranes, and the general lymphatic system. This peculiarity is combined with an inaptitude for rapid and complete regeneration, from which result the multiplicity and the protracted duration of the lesions belonging to the disease. It is not yet settled to what extent the cell life *per se,* or changes in the blood and lymph, operate in this process. Even the question as to the influence of an infectious material cannot be decisively answered, not even after the experimental efforts which have been made with respect to the closely allied process of tuberculosis. After reviewing briefly the investigations (or rather the results of those investigations) of various mycologists with reference to the bacillus of tuberculosis, the author remarks that the decisive method of recognizing the tuberculous character of a substance has been revealed in Koch's discovery. In the further development of this method is to be sought the key to the recognition of the nature of the products of scrofula. Among the recent investigations which bear upon this point the following may be mentioned: Cohnheim and Solomosen conclude that fungous arthritis, cheesy degeneration of the glands, and cheesy pneumonia are to be regarded as tuberculous in their nature; Schüller observed that tuberculous affections in joints occur after inoculation with cheesy material from scrofulous glands; Kiener and Poulet uniformly obtained general tuberculosis after inoculation with scrofulous material. Similar testimony is borne by other investigators, whose results are published by the author, who asks the pointed question, Will scrofula develop into tuberculosis? The answer to this question is, that while this may be possible, the conceptions of the two conditions must remain distinct. He considers it certain, however, that scrofula furnishes the most favorable foundation for the development of tuberculosis. Two recommendations are made, the utility of which is undeniable: first, that means should be taken to anticipate and prevent scrofula; second, in individuals in whom it already exists, to use such means that tuberculosis cannot result. One means of prevention is to be found in the substitution, in all cases, of animal vaccine for vaccination purposes, in the place of the arm to arm method. Another is the substitution of the bottle for breast milk in all cases in which the mother or wet nurse is of a scrofulous diathesis. A third is to subject syphilitic parents to a suitable course of antisyphilitic treatment, since the children of such parents, if they escape syphilitic infection, often develop scrofula. In cases in which scrofula already exists, the plain indications are abundance of pure air and sunlight, cleanliness as to the person, the clothes, and the dwelling apartments, and especially the substitution of nitrogenous for starchy food. Among the former may be mentioned cod-liver oil and various forms of peptone.

Seibert (New York): **Hematuria, in Connection with Cancer of the Kidney during Childhood.** (*Jahrbuch f. Kinderh.*, B. XXI. H. 3.)

One case of this affection is recorded by the author in detail, having occurred in his experience. The fifty cases which are recorded in the literature of the subject are tabulated. From this table, it appears that the disease is more frequent in infants than in children of a later period. He gives to A. Jacobi the credit of first observing that this disease may be developed *in utero*, (Jacobi's case was presented to the New York Obstetrical Society, October 7, 1879,) and quotes the same author's opinion that cases, in infants, which are diagnosticated as *tabes mesenterica*, are, in some instances, cases of malignant abdominal tumor. As to symptoms, the presence of a swelling is usually the first one which is observed. With it, or soon after it, come emaciation, pain, and obstinate vomiting. Hematuria is relatively more frequent than in the same disease in adults, and is most frequently met during the third, fourth, and fifth years. The same symptom is more common early rather then late in the disease; in fact, in two-thirds of the tabulated cases, it was the first symptom which was observed. It comes suddenly and unexpectedly, and usually in abundance. Further, in regard to this important symptom, especially as a means of differential diagnosis, the author presumes four classes of cases. (1) Those in which it occurs in children previously regarded as healthy, (*a*) without premonitory pains, (*b*) with premonitory pains. In all such cases there is the possibility that it may proceed from stone in the kidney, or from a kidney which has undergone cheesy degeneration; but either condition is less probable than the one from which it is to be differentiated. (2) Cases in which emaciation has existed for a long time before hematuria supervenes. This is also an infrequent condition when cancer is present, the emaciation usually following the discovery of the tumor. (3) Hemorrhage, in connection with cancerous degeneration of the kidney, may be associated with an acute febrile process which is referable to that organ. (4) Cases in which hemorrhage from the kidneys occurs in the course of a chronic inflammatory process in the renal tissue. The hemorrhage is apt to be repeated several times, at intervals of varying duration, but not often is it, *per se*, the cause of death.

Barth: "Concerning Delayed Hereditary Syphilis." *Jahrb. f. Kinderh.* B. XXI., H. 3.)

(The review from which this abstract is taken includes also some remarks in regard to a recent work of Fournier's with the same title. The selections, however, are made with reference to Barth's paper.)

A series of phenomena is noticed in connection with the subjects of hereditary syphilis, which the author has arranged in the following order: (1) Such individuals are backward as to their general development. While children they are behind their comrades; at puberty they remain feeble. Girls begin to menstruate later than is customary, the breasts are poorly developed, and the hair upon the pubes is scanty. In boys there may be rudimentary testicles, and the beard is scraggy. (2) Deformities of the cranium are frequent, the brow may be abnormally large, the forehead may be square, or the coronal suture may be thickened, a sort of crest being formed, the *front en carène* of Fournier. (3) The nose may be thickened and broad, and there may be a deep depression at its root. (4) The eyes may suffer as to the corneæ, there may be synechiæ and abnormalities in the shape of the pupils, and occasionally there is zonular cataract. (5) Hearing may be greatly impaired. (6) Disturbances in the development of the teeth are very common, in the form of erosions, lack of symmetrical arrangement, and deformities. They are also prone to suffer early decay and destruction. (7) The palate may be excavated or destroyed. (8) Scars may disfigure the skin, especially at the commissures of the mouth, the nasal openings, and in the lumbar and sacral regions. (9) The skeleton may also suffer changes, especially upon the epiphyses and diaphyses of the long bones, beside the frequently observed tendency to rachitis. (10) The testicles may atrophy, or show a wood-like hardness, their physiological function being destroyed. The foregoing are the most notable, but by no means the only, abnormalities which hereditary syphilitics present, and the author goes on to mention tuberculous and gummy deposits, disease of the larynx, hypertrophies and chronic inflammations of the lymph glands, the formation of osteophytes upon the ends of the joints, and other morbid conditions. Fortunately, the hereditary form of the disease yields to specific treatment not less readily than the acquired; hence the importance of an early recognition of the symptoms and phenomena which have been alluded to, and a diagnosis in accordance therewith.

Jakubowitsch: Tabes Dorsalis during Childhood. (*Arch. f. Kinderh.* B. V., H. 5 and 6.)

The author finds only forty recorded cases of this disease in the French, German, and English literature for the period 1841 to 1883. Several of these cases, too, were cases of hereditary ataxia (Friedreich's disease). There was but one case of Duchenne's *tabes dorsalis,* and to this the author now adds another, which came under his observation in the person of a boy ten years of age. When the child was first seen (August, 1882), there were already evidences that the disease was developing. As to his previous history, there had been a pachymeningitis, followed by deafness, in the winter of 1881. In July, 1882, he was seized with neuralgic pains in the forehead, occipital region, between the shoulders, and in the knee-joints. At the same time there was weakness in the legs, and a characteristic ataxic gait. The voice became hoarse and the speech confused, erythema nodosum was upon the skin, the muscular force of the upper extremities was diminished, and there were muscular atrophy and weakness in the lower ones. There were also narrowness of the chest, free perspiration after slight effort, and darting pains in the knee-joints. Impairment of the sense of touch, as evinced by the use of Weber's circle, was decided. The tendon reflex of the left knee was markedly impaired, and muscular sensibility was impaired to a less degree, both with and without the electrical test. No other abnormalities of any moment were discoverable. No improvement followed three months of treatment with nitrate of silver, bromide and iodide of potash, nux vomica, and electricity. The differential diagnosis of this disease must be made by comparison with chorea, spinal sclerosis, spastic spinal paralysis, cerebellar disease, chronic spinal meningitis, pseudo-hypertrophic paralysis, poliomyelitis anterior, simple tremor, athetosis, and paralysis agitans. By comparison of the author's case with all the other published cases which he could find, his case appeared unique, in that it showed individual symptoms which were wanting in the others, and the reverse. He concludes that each individual case has its own peculiar phenomena; hence the desirability of publishing every case which occurs in the practice of pediatrics

Lucas-Championnière: Hereditary Ataxia. (*Rev. Mens. des Mal. de l'Enf.*, April, 1884.)

This disease was described by Friedreich, and appears to be intermediate between multiple spinal sclerosis and progressive locomotor ataxia. Charcot has described the analogies and differences regarding all three of these conditions. The disease in question, which is also called Friedreich's disease, develops in childhood or in youth, thus differing from ataxia proper, which occurs during the second period of life. Like both the diseases which it resembles, Friedreich's disease usually occurs in individuals who are affected with some form of nervous disease, as hysteria, epilepsy, general paralysis, etc. Its peculiar feature is that it may attack several children in the same family. As yet it has been observed only a few times, Friedreich himself having seen only nine cases, in three families. An English writer (name not given) has seen five children, in a family of nine, who suffered with it. Its course is regularly progressive to a fatal issue, again resembling ataxia proper. As to the *lightning-pains*, and habitual anesthesia or hyperesthesia in spots which occur in locomotor ataxia, these are wanting in hereditary ataxia; but there are present motor inco-ordination to an exaggerated degree, and impaired or abolished reflexes. Like multiple spinal sclerosis, this disease exhibits nystagmus, paralysis as to associated ocular movements, and disturbances of speech, while paralytic myosis and blindness are absent. There is also an absence of the bladder troubles which are so frequently seen in locomotor ataxia, also of the gastric and laryngeal crises, and trophic disturbances. It will thus be seen that this disease resembles true ataxia in respect to the spinal symptoms, while it presents characteristics which prevent mistaking it for multiple spinal sclerosis. The anatomical lesion is in the posterior columns, and also in the lateral fasciculi, which explains its resemblance to both of the diseases with which it has been compared.

Neumann: Treatment of Fungous Arthritis by Means of Injections of an Ethereal Solution of Iodoform, and Simultaneous Inunctions of Soap. (*Arch. f. Kinderh.*, B. V., H. 5 and 6.)

Two cases were treated by the author after this method, which was suggested by Mikuliéz. The first was a boy four years of age, in whom the epiphyseal ends of the elbow-joints were much swollen. The forearm was almost immovably flexed upon the humerus, any attempts at motion being very painful. No positive results followed applications of iodine and a glass bandage. Next the ethereal solution of iodoform was used by injection with a Pravaz syringe. The proportions of the solution were, one of iodoform and five of sulphuric ether. The injection was used ten times, at first every five to eight days, then every fourteen days. Intense pain was produced by the injection, which pain lasted six hours. It was also accompanied by increased swelling and redness of the joints. After the fourth injection, passive movements of the joint were less painful, gradually the swelling subsided, and active movements were resumed. During the period of treatment salt baths and inunctions of soap upon the back were also employed. In the second case, the patient was a boy three and a half years of age, who had a distorted left ankle-joint. Bandages and inunctions had proved useless. At the end of four months the lower extremities of the tibia and fibula were separated, and there were much swelling and redness around the joint. The same treatment was then adopted as in the previous case. After the sixth injection improvement began, and this continued to recovery. The thickening of the epiphysis, however, did not subside.

Pauli: Acute Inflammation of the Joints as a Sequel to Diphtheria. (*Arch. f. Kinderh.*, B. V., H. 5 and 6.)

Two cases in which the sequel mentioned in the caption was observed, are reported by the author, in connection with his experience in an epidemic of diphtheria at Plön. The first was in a boy fifteen years of age, sick with diphtheria in the fauces. Day and night regular applications were made with a two per cent. solution of hypermanganate of potash; an ice collar, and gargles of lime-water were used, and a solution of wine and sesquichloride of iron (three parts to one hundred and eighty) was given. During convalescence the knee-joints became swollen and painful, but yielded to treatment. There was, however, a subsequent recurrence. The second case occurred in a delicate boy, thirteen years of age, who had a high fever, and diphtheritic deposit upon both tonsils. The treatment was similar to that which was followed in the first case. On the tenth day, the fever having subsided and the false membrane dissolved, he was seized with pain, redness, and swelling in the left knee-joint; on the next day the left shoulder-joint was attacked. Subsequently the sternal, maxillary, pedal, costal, and elbow-joints became involved, and finally there were symptoms of pericarditis and contracture in the left knee-joint. Salicylic acid had no effect. After three months the patient recovered. (The treatment is not mentioned.) The author regards these joint affections as instances of sero-diphtheritic synovitis or arthritis, analogous to the scarlatinal arthritis of Bokay and Rehn. He thinks, with Bœck, that the origin of the disease is in the vaso-motor nerves, the innervation center of which, for the joints, is in the medulla oblongata.

Kjellberg: Pernicious Anemia in Children. (*Arch. f. Kinderh.*, B. V., H. 5 and 6.)

This is the disease which was described by Biermer under the name "progressive pernicious anemia," and by Addison and Wilks under the name "idiopathic anemia." The disease is confined almost wholly to adults, but is occasionally seen among children. Quincke reports a case in a girl, eleven years of age, which was fatal at the end of five weeks. The child was weakly, and poorly nourished, and her chief symptoms were anemia, apathy, heart murmurs, pulsation in the jugular veins, loss of appetite, diarrhœa, retinal hemorrhages, and many small and irregularly formed red corpuscles in the blood. At the autopsy, in addition to the anemia, there were dropsy of the serous cavities, and slight hemorrhages under the epicardium, and in the muscular tissue of the left ventricle. The lymphatic apparatus of the intestines was unaffected. Another case occurred in the author's practice, in 1883, in the person of a boy, five years of age, these being the only ones recorded in pediatrical literature. A careful review of the author's case, which is detailed in all its particulars in his paper, convinced him that it was identical with the disease which is described by Biermer; and also, as a corollary, that the disease may occur among children, and not alone among adults. The author confesses that he has nothing to offer as to the etiology of this disease in children as a result of his experience. He thinks that the view of Warfunge, that there may be an infectious element as to its origin, is not without reason. As to treatment, arsenic, in connection with plenty of nutritious food, has been recommended, and was tried by the author, but without producing the desired effect.

Blaise: The Heredity of Syphilis. (*Jahrb. f. Kinderh.*, B. XXI., H. 3.)

The author of this paper shares the view of Fournier, that inheritance of syphilis is only of an indirect character, as the result of a profound disturbance of nutrition, which brings to the surface new predispositions to disease, and awakens latent ones. Children of syphilitic parents often die, soon after birth, from no other apparent cause than simple weakness, and others who survive, in many cases, suffer from imbecility or idiocy, which is, without doubt, attributable to the parental taint. Reference is made to one such case which is reported by Fournier, and to another, of Tarnier's, in which there were epilepsy and microcephalus. Hydrocephalus, also, has been observed by Lancereaux. Hence defective development can be spoken of in this connection which affects the entire individual, as well as that which affects a part of the organism. The author refers further to the bearing of syphilis upon the development of rachitis, scrofula, and tuberculosis. In regard to rachitis he disagrees with the views of Parrot, and considers that syphilis exercises only a predisposing influence. A similar view is held in regard to scrofula, in opposition to that one which identifies the two diseases upon the ground of the similarity of the pathological anatomy in each. As to tuberculosis, in view of the present condition of the question, one can only admit that the inherited constitutional weakness of the children of syphilitic parents furnishes an appropriate field for the development of micro-organisms.

Parrot: The Duration of Lactation and Weaning. (*Jahrb. f. Kinderh.*, B. XXI., H. 3.)

The author recommends nursing mothers to begin to feed their children with some kind of milk preparation at least as soon as the sixth month, and if possible by the fifth or fourth. Those cases are excepted in which children are provided with good wet-nurses, when suckling may be continued to the eighth or tenth month without any other nutriment. It must be borne in mind, however, that such cases may require weaning suddenly, and the immediate adoption of artificial feeding may be disastrous. As the child gets a little older (starting from the period at which artificial feeding was begun), two additional meals of milk-pap may be given daily, and one of *bouillon*. The author thinks that the period of nursing should be ended by the twelfth or fifteenth month, but this should never come in midsummer, rather at the end of spring or the beginning of fall. At the time of weaning, the child ought to be perfectly well, and should receive four meals daily, twice of milk-soup, or milk-pap containing arrow-root, rice, or barley-flour, and twice of meat soup with tapioca, or other suitable ingredients. Between meals plenty of good cow's milk should be drunk. At a later period the author recommends, as readily digestible, a soup composed of meat juice, bits of white bread, and yolk of egg, with a suitable quantity of water. In addition to water, for drinking, the author thinks that a little Bordeaux wine or cognac is often appropriate. Easily assimilated mineral waters may also be given in small quantities.

Florand: Statistics of Diptheria at the Hospital Trousseau During the Year 1883. (*Rev. mens. des Mal. de l'E.*, Feb., 1884.)

The cases, 606 in number, were all isolated in a separate pavilion. They were divided into classes representing the *anginose* and *croupous* forms. There were 165 cases of the former, 359 of the latter, in which an operation was performed, and 82 of the latter in which no operation was performed. Of the 165 *anginose* cases, 65 died; of the 359 *croupous* operation cases, 244 died. It is remarked that the custom of the hospital authorizes the *internes* to operate in all cases in which the patient seems capable of bearing the operation. Among the 359 cases before mentioned, 40 were complicated with measles, 30 of the patients were under 2 years of age, and of the 115 who survived the operation, one was 13 months of age, and 2 were under 20 months. Those cases in which tracheotomy was not performed were so thoroughly inoculated with the disease that they died a few hours after their entrance into the hospital.

Carin: Examination per Rectum in Coxitis. (*Arch. f. Kinderh.*, B. V., H. 3 and 4.)

This method of examination is recommended by the author in inflammatory conditions of the hip-joint, as well as of the pelvic bones, as a means of especial value in the period of childhood. Either the dorsal or the knee-elbow position may be chosen, the most important structures in and about the pelvis being easily accessible to the examining finger. The author recommends, however, the dorsal position when the right hip-joint is diseased, and the knee-elbow position when the disease is in the left side. [It seems hardly necessary to direct, as the author does, that the examining finger should be well greased, and slowly introduced into the rectum.] The disengaged hand may be placed upon the abdomen, and may assist the examining finger in confirming its discoveries. Several cases of acetabular disease have been diagnosticated by the author by this means. His conclusion is that all cases of coxitis should be investigated per rectum, but especially those in which resection is to be performed.

Raudnitz: Multiform Septic Exudative Erythema. (*Arch. f. Kinderh.*, B. V., H. 5 and 6.)

The author mentions two cases of this disease in newborn infants, the phenomena being similar in both. After a severe intestinal catarrh, which was accompanied with brain-symptoms, a multiform erythema appeared, which by degrees became confluent, and then suddenly vanished. There were also severe stomatitis, bad-smelling evacuations, and decided loss of weight, but no fever. In both there were purulent discharges from the navel, and in one there was *arteriitis umbilicalis.* Suppuration lasted long after the navel stump came away. The urine in both cases was albuminous, and contained epithelial casts, and certain micro-organisms which were not accurately defined. The septic character of the disease was evinced by the suppurating wound of the navel, the intestinal catarrh, the albumen and casts in the urine, and the micro-organisms. The absence of fever in infants does not militate against the septic character of the disease.

Fränkel: Different Forms of Eruption in Diphtheria. (*Arch. f. Kinderh.*, B. V., H. 5 and 6.)

Among the complications of diphtheria the author has observed the following: (1) Petechiæ and hemorrhagic patches, which are found with and without laryngeal stenosis, usually in small numbers, upon the body and limbs, both at the beginning and end of the disease. With them are often associated extravasations into the serous membranes. Jungnickel believes that the extravasations are the result of micrococcal emboli. (2) Erythematous affections of the skin, which render possible a mistaken diagnosis of scarlatina; they are accompanied, however, by no desquamation. (3) Unna has reported one case in which there occurred a papulo-pustular eruption, suggestive of smallpox. All these cutaneous phenomena render the prognosis of the diphtheritic affection less favorable, because they demonstrate a general infection.

Schaeffer: The Treatment of Diphtheria with Papayotin. (*Arch. f. Kinderh.*, B. V., H. 5 and 6.)

The author reports in his paper (originally published in the *Berl. Klin. Wochen.*, No. 52, 1883), forty-seven cases of diphtheria which were treated with applications of a five per cent. solution of papayotin, and in almost all of them there was a rapid disappearance of the false membrane and simultaneous decline of the fever. Two of the cases were fatal, but the author considers that these did not receive the care which they required. In using this substance, the applications should be carefully made every ten or fifteen minutes. The great expense of papayotin is quite a drawback to its general use. On account of this objection, Ewald has recommended as a substitute pancreatine, in view of its albuminolytic properties.

Heubner: Hydro-therapeutics in Infantile Diseases. (*Rev. mens. des Mal. de l'E.*, March, 1884.)

This author observes that cooling of the thoracic region produces a very noticeable effect upon the entire organism. His method consists in the use of water at 16° C., in which a large cloth is dipped, and then is carefully wrung out. It is then to be spread upon the surface of the body, covered with flannel, and changed every half hour until the temperature is sufficiently low. A temperature ranging near 40° C. is an indication for this treatment. In some cases it will be well to envelop the entire body with the wet cloth, but in very young children it would not be advisable. If it is desired to produce heat and sweating by this means, mustard should be added to the water, and the pack should be retained an hour and a half.

Duchamp: Ovariotomy in a Child Eight and a Half Years of Age—Recovery. (*Archivio di Patologia Infantile*, Jan., 1884.)

The patient presented herself before M. Duchamp complaining of a hard, rounded abdominal tumor, which gave evidence of fluctuation, and seemed to come from the right side of the pelvis. It seemed to be non-adherent to the abdominal wall, and as its growth was very rapid, its removal was decided upon. The operation was done with antiseptic precautions, the abdominal incision measuring twelve centimetres. The tumor was found to have developed from the left instead of from the right side, as was diagnosticated. The pedicle was tied in three portions, and its end thoroughly cauterized. The deep sutures were removed upon the eighth, and the superficial ones upon the eleventh day, no decided rise of temperature having occurred at any time. Recovery was complete and uninterrupted.

Pincus (Berlin): **Discoveries in Epidermal Scales taken from Scarlet Fever Patients During the Period of Desquamation.** (*Arch. f. Kinderh.*, B. V., H. 5 and 6.)

The author found in fragments of removed epidermal tissue micrococci of the smallest size, which he considers pathogenetic. The existence of a great number of fine, point-like bodies upon epidermal cells demonstrated to his mind that the morbid process begins in one of the upper layers, as the under surface of the scale, which is subsequently shed, shows that it represents, at an advanced stage of the process, the zone of active irritation, and that this active irritation is somewhat suddenly interrupted when the scale is removed, and the process is to be taken up by the next stratum. The author's conclusions in respect to this matter are that disinfective treatment of the skin is appropriate.

Ollivier: Cutaneous Phenomena in Connection with Chorea in Children. (*Rev. mens. des Mal. de l'Enf.*, April, 1884.)

Two cases are detailed in which the phenomena in question were seen. In one case there was a polymorphous erythema, in the other an urticaria. With the first eruption there developed simultaneously a cardiac lesion and articular pains, with the other the articular pains only. The recurrences seemed to the author sufficiently rare to merit attention, especially as he found no record of similar cases. He also takes occasion to say that chorea may be preceded or accompanied by simple, papular, or nodose erythema, by urticaria, and probably by purpura. He agrees with Germain-Sée and Roger in believing that chorea, and the cardiac affections which accompany it, are of a rheumatic nature; also stating that it is probable that the cutaneous phenomena in such cases are of similar origin.

Tedeschi: Rachitis. (*Arch. f. Kinderh.*, B. V., H. 5 and 6.)

The author calls attention to the numerous nervous phenomena which either precede or accompany rachitis, and upon them bases a theory as to the nervous origin of it. Upon this supposition he has treated thirty-seven rachitic children with the constant current. He used a strong current and large electrodes, placing one upon the right side of the cervical and the other upon the left side of the lumbar vertebræ. After two and a half minutes the current was reversed, as was also the position of the electrodes, the current being also passed for two and a half minutes in this direction. He was in the habit of going through this procedure daily. His conclusions are not mentioned.

Seifert: Further Observations in Regard to the Effect of Chinolin in Diphtheria. (*Arch. f. Kinderh.*, B. V., H. 5 and 6.)

The observations which have been published in regard to the effect of chinolin upon diphtheria, demonstrate that it is unusually favorable. The treatment which the author has employed consists in topical applications with a five per cent. solution, gargling with a one-fifth per cent. solution, an ice collar about the neck, and plenty of water to drink. No deaths occurred in his experience. In one case, that of a boy nine years of age, applications of a chinolin solution were made directly to the trachea after tracheotomy, with the view of preventing the further formation of false membrane. The author's opinions in regard to the value of this agent in diphtheria are, therefore, decided.

Abstracts.

Juvenile Osteomalacia.—Mr. Davies Colley presented to the London Pathol. Society (*Medical Times*, April 5) specimens illustrating this condition, taken from a girl of thirteen. She had been under observation two years. The child was the third of four, and the father had died some years before. The surroundings were bad. She was healthy up to nine years, but had a waddling gait. Then her knees began to bend in, and she broke her humerus, and a little later one femur.

On admission to the hospital, the tibiæ were very tender, flexible, and could be indented on pressure. The bicuspid teeth became loose. The urine showed triple phosphates and pus corpuscles. Quantitive examination showed lime to be in excess, with a deficient amount of phosphoric acid. Death occurred from phosphatic calculi in the kidneys and suppurative pyelitis.

At the autopsy, except these changes, the viscera were healthy. The head was enlarged, the upper extremities much twisted, the lower less so. The abdomen was distended; there was no pigeon-breast.

The bones showed two kinds of change: some were hypertrophied and dense; others brittle, rough, and light. The skull was dense; showed no diploë; at one or two points it was soft on the outer side. Lower jaw thick, not quite so dense, but very hard. The vertebræ were somewhat swollen, and there was lateral curvature. The pelvis was small, its left ala very thick and gelatinous, the other ala exceedingly thin. The outlet of the pelvis was very small. The ribs were thin, and the fourth on the left side showed a rounded swelling—a sort of callus formed on a fracture. Humerus much bent and twisted inwards; radius and ulna much twisted. Femur bent with convexity outwards, twisted on itself. Epiphyseal line resembled rickets, was thick and irregular. The shafts of the long bones were thin, rough, and brittle, and epiphyses all about normal size.

The disease closely resembled rickets in many points, but was also very similar to cases of osteomalacia, and the author believed this to be the diagnosis—(1) Because occurring late in life. (2) Because of the renal calculi. (3) The thinness and flexibility of the long bones. (4) The utter failure of the usual anti-rachitic remedies; Ol. morrhuæ, iodide of potassium, iron, and mercury were all tried in vain.

The jaw, rib, ilium, femur, tibia, and skull were examined by Mr. Symonds. The tibia and femur showed a complete absence of compact tissue; the vessels were large, the tissue fibrous, the periosteum adherent. The swelling on the ilium was covered with a thin layer of bone. The swelling on the jaw and rib were made up of concentric lamellæ separated by gelatinous tissue. The skull was porous, and showed a large space occupied by a fibrous medulla. The epiphyseal line in the long bones showed a very great proliferation of cartilage cells.

The President, *J. W. Hulke*, had seen calculous disease in several cases in adult women with osteomalacia.

Mr. Lane said the first change was decalcification; there was then an attempt at the formation of new bone, which was only partially successful. The fractures were merely decalcifications in a marked degree, and not really fractures.

Pericarditis in Children. Henry Ashby M.R.C.P. (*Lancet*, March 29 and April 5).—This, as in adults, most commonly depends on acute rheumatism. Acute rheumatism is a rare disease in the first dentition, as is also Bright's disease a common cause in adults.

Pericarditis does, however, occur, and is probably overlooked oftener than is supposed. It may come in the newly born from the absorption of septic matters from the cord or a phlebitis of the umbilical vein. It also follows occasionally suppurative periostitis and ostitis, and occurs as a part of general tuberculosis. It is more important, however, when it is primary or complicates simple pleurisy, empyema, or pleuro-pneumonia. It is then often purulent; for, like pleuritic effusions, those in the pericardium are much oftener purulent in children than in adults. Two cases of fatal purulent pericarditis are detailed: one, in a child four and a half months old, opened externally at the tip of the ensiform cartilage, having burrowed some distance beneath the skin; the second case, in a child of eighteen months, was aspirated twice during life with the diagnosis of empyema, the physical signs being impaired resonance in front and bronchial breathing, which was less marked in the axillary region. Behind these was much diminished resonance, with intense bronchial breathing above, less distinct below. The area of cardiac impulse was more extended than normal, but the apex was not displaced. The aspiration was done in the eighth space near the angle of the scapula. One ounce was first drawn off, and four days later two ounces.

The pleural cavity was found obliterated by an old inflammation, and the trocar had passed through half an inch of collapsed and adherent lung, entering the distended pericardium. There was no tubercle found, and no important lesions elsewhere.

Several examples of a similar mistake in diagnosis are quoted from other authors.

After three or four years, pericarditis is more frequently rheumatic than from any other causes. It may precede the joint-pains. The subjective symptoms are even less distinctive than in adults. The author's experience is against the common belief that pericarditis often follows the zymotic diseases, especially scarlatina. One case is reported in which a history of scarlatina was given by the friends, occurring one week before admission. The patient had a systolic murmur, heard at the apex and at the angle of the scapula; the apex beat was one-half inch beyond the mammary line; the impulse was diffused. There was a to-and-fro sound heard over the whole cardiac area. In a few days tenderness of the fingers, but of no other joints, appeared. The precordial dulness extended to the clavicle and to the axillary line; there was bulging of the chest. On account of urgent symptoms, an exploratory puncture was made in the fourth space, and six or eight drachms of bloody serum drawn off. Another puncture in the second space, one inch from the sternum, was made, and two drachms more removed. Temporary relief resulted, and the fluid gradually disappeared, but the patient finally succumbed four months later with dropsy. Thickened and adherent pericardium, hypertrophy and dilatation of the left ventricle, and recent endocarditis were found. The heart-muscle showed degeneration to a marked degree.

In another case, æt. 7 years, there had been repeated attacks of rheumatism for four years, precordial bulging, swelling of several large joints, tonsillitis, albuminuria with edema. Death occurred on the twenty-eighth day from cardiac failure. The pericardium was found everywhere adherent, with recent lymph on its free surfaces; hypertrophy and dilatation of the left ventricle, thickening and insufficiency of the mitral valve, but no recent endocarditis.

In these two cases, the hearts were crippled from previous endocarditis, the results of which were partially compensated for by hypertrophy; but acute pericarditis, with its damaging effects on the heart-muscle, together with the extra work imposed by the thick coat of organizing lymph, made a burden to which the heart succumbed in the course of a few months.

A result of adherent pericardium in children, not seen in adults, is the undergrowth of the large vessels. This it shares with mitral stenosis and regurgitation. In a patient of twelve, who had suffered from heart-disease for four years (adherent pericardium), the aorta was only large enough to admit one's little finger, although the heart weighed twenty-two ounces. Mediastino-pericarditis, or an inflammation acute or chronic, extending beyond the pericardium, involving the adjacent pleura, mediastinal glands, and other organs, the author regards as extremely difficult of diagnosis. Usually symptoms result only from pressure. There may be, however, a pericardial rub during a pleurisy, or an exocardial rub, louder during inspiration and absent during expiration. There may be the *pulsus paradoxus* of Kussmaul, weak during inspiration, normal during expiration, this being due to pressure on the aorta or other large vessels. The early signs of this condition are feeble circulation, enlargement of the liver, and ascites. The later ones are edema of the upper and lower extremities, great distension of the veins of the neck during inspiration, together with orthopnea and cyanosis. There are no signs of valvular disease, and no hypertrophy; the serous cavities fill up again and again after tapping.

One autopsy in this rare condition is reported. The peritoneum and right pleura were full of fluid ; the liver was congested, large, and somewhat cirrhotic; heart small, valves healthy, pericardium firmly adherent, and a production of new connective tissue had matted together the following structures in the mediastinum: anterior edges of the lungs, veins entering the heart, glands, trachea, and esophagus. The superior vena cava and its branches were dilated, but it, as well as the inferior, was compressed where it entered the heart. It is very difficult, if not impossible, in these cases to tell in what structures the inflammation began.

Perforating Ulcer of the Foot. Edmund Owen (*Lancet*, April 5).—The patient was a girl of eleven years. The ulcer extended deeply into the sole of the left foot at the level of the heads of the metatarsal bones. It was almost as wide as the foot, and nearly square. It began at sixteen months of age, the foot was stunted in growth, pieces of bone had from time to time been discharged. The great toe was the only one which had a nail. The third and fourth toes were represented only by small nodules. There had never been much pain; there was absence of knee reflex on that side, and diminished upon the right side; no marked anesthesia in the foot. There was no history of ataxia, crises, or pains. Under absolute rest, the ulcer healed in two months. Another dusky patch of skin had, however, appeared on the dorsum, which looked like the forerunner of another ulceration.

A number of cases in adult males have been reported. The disease is exceedingly rare in females, and almost unknown in childhood. It was in this case evidently secondary to nerve-degeneration, which, from the absence of tendon reflex, the author thinks is most likely to be in the spinal cord. L. EMMETT HOLT, M.D.

The Identity of Laryngeal Diphtheria and Membranous Croup (*Hahnemannian Monthly*, March).—Dr. George Allen presents the objections to the arguments of those who regard the diseases as distinct. (1) Diphtheria limited to the larynx is generally a local disease on account of the scanty supply of lymphatics to the larynx. (2) As to contagion, the epidemic appearance of croup is admitted. (3) Croup is rarely a sthenic disease; diphtheria is not, necessarily, adynamic in type. (4) The seat of origin of the affection is of no value in differential diagnosis. Mackenzie places the origin of diphtheria in the larynx in 10–12 per cent. of his cases. (5) The absence of faucial trouble does not exclude the possibility of a diphtheritic process confined to the larynx. (6) With such a limited diphtheria, the presence of submaxillary enlargements is not to be expected, because the laryngeal lymphatics empty into the deep cervical glands. (7) Albuminuria is often seen in so-called croup. Epistaxis is not to be expected in a laryngeal diphtheria. (8) The absence of non-diphtheritic paralysis does not exclude diphtheria.

(9) There is neither a microscopic nor macroscopic distinction between the diphtheritic and croupous membrane, which cannot be traced to the difference in the structure of the parts on which they are thrown out.

Eczema (*Med. News.* March 8).—Dr. Duhring teaches that eczema is to be differentiated from scarlatina and erysipelas, favus, scabies, dermatitis as the result of irritation, syphilitic eruptions, pemphigus, seborrhea, psoriasis, ringworm, and sycosis. At times, exclusively constitutional treatment suffices. The saline aperients, diuretics, tonics, among them arsenic, are all valuable. Arsenic is best given in small doses, given continuously for some time. It is, as a rule, contra-indicated in acute cases, and is most to be relied on in the chronic papular variety, in the erythematous form, occurring in broken-down subjects. Locally, for the erythematous variety, lotions containing carbolic acid, or prepared calomine and oxide of zinc, or the sulphide of zinc, are recommended. In the vesicular form, the black-wash followed by zinc ointment, or the calomine lotion and dusting powders are valuable. Strong solutions of carbolic acid (1½ to 3 drachms to the pint) or of liquor picis alkalinus are to be used in the papular forms, calomel, sulphur, and white precipitate ointments in the pustular varieties. The rubber bandage for the leg in eczema rubrum should get a fair trial.

Turpeth Mineral (*Med. News,* March 8).—Drs. Randolph and Roussel found, after the administration of 8 grains of turpeth mineral to eight cases, all men in fair health, no bad after-results in three, a diarrhœa with the appearance of the drug in the stools in five, and well-marked salivation in one of the five. In all these cases free emesis had followed the administration of the drug. Reference is made to two fatal cases of poisoning reported by Dr. McPhedran.

The editor of the *News* agrees with Drs. Randolph and Roussel as to the danger from the drug, and would limit its use to cases of true croup and of acute laryngitis, the inflammatory croup of Barker. In laryngismus stridulus, its use is to be condemned. The following conclusions are presented—(1) A dangerous quantity of turpeth mineral often remains in the stomach after emesis. (2) The drug possesses such toxic properties as to demand special caution in its administration, and to condemn its use when the exhibition of any other emetic is practicable. (3) It should not be placed in the hands of the laity.

The Etiology of Ophthalmia Neonatorum (*Hahnemannian Monthly*, March).—A case of ophthalmia is reported, by Dr. Farrington, developing on the fourth day after birth in a child born with unruptured membranes. Every effort was made to shield the child from strong light and to protect it during bathing. What was the cause of the ophthalmia? The child was plump and well nourished.

The Treatment of Diphtheria (*Med. News*, March 1 and 8.)—The editor enumerates in detail the various methods in general use, and discusses their relative values. The local remedies he divides into two classes—the solvents for the removal of the membrane, and the parisiticides to prevent its reformation. Among the former, lactic acid (strength 1 to 3), painted or sprayed on, is recommended as most efficient. The removal of the membrane, except in the case of laryngeal diphtheria, has for its sole object the preparation of the parts for the action of the parasiticides. The greater danger of systemic infection in nasal diphtheria makes the use of the solvents followed by antiseptic applications especially needful.

A caution is given against crowding upon the patient an amount of food that cannot be digested. The pancreatic peptones are advised. Alcohol may be used as an antiseptic in large doses on an empty stomach, or in smaller quantities well diluted as a nutrient and cardiac stimulant.

Chlorate of potassium is admitted to have some utility in the early stages, but later on it is useless, and possibly dangerous, if renal complications should exist. Pilocarpine is generally contra-indicated in the septicemic form, but has an influence in loosening the exudation, especially desirable in laryngeal diphtheria. The action of mercury may be parasiticide, aplastic, or eliminant. Quinine is of use rather as a stimulant of the vital processes than as a germicide. For the paralyses, picrotoxin, ergot, belladonna, and digitalis are advised, with nitro-glycerine as a remedy of some promise in cases of threatened heart-failure. J. B. MCMAHON, M.D.

Calculus in the Bladder of a Female Child Three and a Half Years Old; Lithotrity; Recovery. John R. Lunn, F.R.C.S. (*Lancet*, March 1).—On admission, it was stated that the child had had prolapse of the rectum for three weeks. There was at this time slight incontinence and frequent micturition, but neither rectal prolapse nor hematuria. Several round worms were passed a little later, with rectal prolapse. The incontinence became worse, with screaming at night. On being sounded under chloroform, a hard stone about one inch in diameter was made out. It could be also made out by combined rectal and suprapubic examination.

Under chloroform, a small lithotrite was introduced and the stone crushed, the fragments being removed by Bellingham's wash-bottle. Fragments were passed for several days. The operation was done three times within the month, and a perfect relief from all the symptoms was obtained. Considerable reaction followed the operation, and on one occasion the temperature rose to 102.4° F. The child recovered without any serious symptoms.

Four Cases of Lithotomy in Children. H. W. Freeman, (*Lancet*, March 1).—The lateral operation was performed in every instance, and all the cases did well. The first case was ten years of age, and was brought to the Hospital for incontinence of urine. The urine was alkaline and ammoniacal, but contained no blood. A large stone was readily found by examination, and when removed weighed 225 grains. It was phosphatic externally, with a hard nucleus of oxalate of lime.

The second case, aged thirteen, had pain on micturition and difficulty in holding his water. This had existed for some years. The prepuce was long—he was frequently seen pulling at it—and the bed was wet every night. The urine was ammoniacal and phosphatic, but not albuminous. The general condition was bad, and the abdomen swollen, hard, and tender. With some difficulty a small stone was struck. The operation was delayed for three months with the hope of improving his general condition, the bladder being washed out daily with a solution of boracic acid. The stone was phosphatic, and weighed only 38 grains. He made a tardy recovery, the wound not healing until the seventh week.

The third patient, a pale and anemic boy of ten, was also brought complaining of painful and frequent micturition with nocturnal incontinence. The stone was uric acid with an external coating of phosphates.

The fourth case was a stout, ruddy-cheeked boy of six, who for several months had suffered from painful micturition. He was immediately operated on, and a uric acid calculus weighing 185 grains removed.

In all the cases, an elastic tube was introduced through the wound into the bladder and retained for twelve hours. In three of the cases, on the tenth or twelfth day after the operation, a rise of temperature varying from 101° to 103° F. took place, lasting several days. It yielded to the internal administration and the local use of quinine. The author speaks highly of the use of weak solutions of quinine (1 gr. to 1 ounce) in all cases of chronic cystitis.

Imperforate Anus. Rectum Terminating in the Membranous Urethra. William Craig, M. D. (*Edinburgh Med. Jour.*, March).—Two days after birth the physician was asked to see the child, which had been crying all night and passing feces through the penis. The abdomen was found swollen and tender. A well-marked raphe was present in the perineum, and a small cul-de-sac admitting the finger, but no anal opening. An exploratory incision was made one inch deep, but no trace of the bowel found. This was kept open and watched daily, but no bulging above could be discovered. Intense agony was caused by the passage of the feces by the penis. The child lived eighteen days.

At the autopsy the organs above the pelvis were found normal. The bladder and rectum did not communicate, but the latter opened into the urethra just in front of the prostate. The third portion of the rectum was completely undeveloped.

The urine in this case was passed regularly and not mingled with feces.

Chronic Tonsillitis and Tonsillotomy. The London *Medical Times* of March 8 contains a brief but pointed paper condemning the wholesale removal of tonsils for chronic inflammation. The disease is peculiar to certain individuals, usually those of a strumous type. In many cases other lymphatic enlargements coexist. The cause of the fluctuation in size in the same person, and of the regrowth after removal, is to be looked for in the anatomy of the organ. It is made up entirely of lymphatic and adenoid tissue. The symptoms produced are: the peculiar expression of the face, the noisy breathing at night, occasional deafness, and less frequently abdominal pain and capricious appetite. So long as deglutition and respiration are not interfered with, the size of the tonsils is usually a matter of little importance. A strong tendency to atrophy, as age advances, exists. When the tendency to hypertrophy is still present, it is almost certain to show itself after ablation. The general, not the local, condition should be aimed at as the object of treatment. In most cases it is found that cod-liver oil and iron will do as good work before as after operation. Except for the one cause of local obstruction, there is no more reason for removing hypertrophied tonsils than any other enlarged lymphatic glands.

Orbital Abscess Communicating With the Brain. A. Emerys-Jones, M. D. (*Brit. Med. Jour.*, Feb. 23).—The patient was a boy two years old who, three months before he was seen, had hit the corner of the right eye with a tin whistle. The upper eyelid was found everted, showing numerous cicatrices and discharging pus freely. Six weeks later there was frequent vomiting, and the eye protruded a little in a downward direction. An exploratory puncture was made with negative result, save that during this operation distinct pulsation was noticed. He died eight months after the injury. During the last two weeks he became comatose and developed left hemiplegia. The eye was crowded forward and pulsated strongly. The temperature never went above 99° F. No ophthalmoscopic changes were discovered at any time. The autopsy showed a sac with a dense wall, above and behind the eyeball, communicating freely through an opening one inch in diameter in the frontal bone with the cranium. The abscess extended backward into the brain and involved the frontal lobe. It contained at least a pint of pus. The pulsation had led to the previous diagnosis of aneurism.

Rickets.—W. R. Thomas, in a clinical lecture on this subject (*Lancet*, March 8), states that it is the most frequent disease in Sheffield, and is on the increase. He accepts the theory that the essential pathological feature of rickets is the absorption of the salts of lime deposited in the bones. This is sustained by the etiology and clinical history of the disease. It occurs chiefly during dentition, when lime salts are diverted to this function. It is caused by improper diet, miscellaneous feeding of infants on solid food, and by sour milk. These are the chief sources of gastric derangements, and consequent malnutrition. It is most often seen in large families, and in children whose nursing mothers are debilitated from overwork and insufficient food. Want of pure air is an important factor. Drinking water in which lime salts are deficient is something which at least deserves mention. It is not strictly hereditary, like syphilis and scrofula, but early marriages, intermarriages, chronic wasting diseases, and excesses of any kind in the parents, may lead to rickets in the children. He does not consider that the close relationship of this disease to syphilis has been established.

With reference to treatment, if the child is still nursing, it should be weaned, as the fact of the child's being rachitic shows the unfitness of the nutriment. A wet-nurse should be found, if possible; if not, diluted cow's milk is the best substitute. The addition of pepsine is often advantageous. Later on, the usual animal and farinaceous foods may be gradually added to the dietary. Lime-water should be combined with the milk when it passes in an undigested form. If there is constipation, the bicarbonate of soda is useful. The author is a firm believer in the use of lime phosphate, which he gives, first, because the disease can be artificially produced in animals by withholding it from the food; secondly, because experiment has shown that fractures in animals unite more readily when it is given freely. Cod-liver oil is useful, but is often used in too large doses. The stools should be examined, and if the oil is found in them, the dose should be reduced.

Tubercular Meningitis with a Slow Course. Michael Collins (*Lancet*, March 8).—The patient, a boy of eight, after a couple of months of decline, had a convulsion on June 5th. No other brain symptoms were present at the time, and the convulsion was attributed to a worm which was passed the next day. On June 25, he had headache, nausea, retracted abdomen, constipation, a pulse of 120, temperature 101° F., dilated pupils, and täche cérebrale. A few days later, he had a convulsion which left him with aphasia and right hemiplegia. Afterwards the signs of consolidation at the left apex developed. After several periods of delusive intermission of symptoms, convulsions came on, and death took place on September 17th. No autopsy was held.

The Wet-Pack in Scarlatinal Dropsy.—Dr. Day reported to the Harveian Society of London (*Lancet*, March 8) a case in which this treatment seemed to be beneficial, though the patient finally died. He was a boy of seven. The eruption came out unusually well. The throat, cervical glands, and kidneys were severely affected, and the urine contained blood and albumen. On the eighteenth day dropsy set in, which almost disappeared under the use of the pack. On the twentieth day there was diarrhea and vomiting, and on the twenty-third day convulsions and death. The rash was bright as late as the tenth day. The dropsy was not frequent when the skin was so much involved. The subject of scarlatinal dropsy without albuminuria was noticed by the author. In the discussion, Dr. Mahomed called attention to the present variety of this complication of scarlatina as compared with former returns. At the Fever Hospital only two or three cases were recorded in the year. He thought the result due to the early treatment of the nephritis—the most effective being free purgation and leeches to the loins.

Abscess of the Lung; Recovery. Dr. McKenzie Booth (*Brit. Med. Journ.*, March 8).—Patient was a girl of thirteen, of a phthisical family, and had suffered from repeated attacks of bronchitis. The last attack began about two weeks before she came under observation. There was rapid wasting, anorexia, irregular exacerbations of fever, which finally ran up to 103° and 104°. Breathing was hurried; pulse became so rapid it could not be counted. The cough and expectoration were not marked. There was dulness and crepitant râles at the right apex in front and behind. About three weeks from the beginning of the attack a severe fit of coughing set in, and pus was expectorated in such quantities as almost to choke the patient. The signs now were—resonance, which was almost amphoric, over the right apex, gurgles, and cavernous breathing. In a fortnight cough and expectoration were almost gone, and the patient began to gain rapidly. There was now dulness and broncho-vesicular breathing at the apex. The patient made a rapid recovery.

The Etiology and Treatment of Diphtheria.—Dr. Alfred Carpenter contributed a paper on this subject to the British Medical Association (*British Med. Journal,* March 1). It is not yet indubitably proven that this disease is the result of filth; but its presence, in the great majority of cases, is intimately connected with decomposing excreta.

The excreta may furnish a soil for the development of diphtheria while yet within the body. The temperature has much to do with the sudden development of diphtheria. It may follow certain sewer lines. It has been conclusively shown to be propagated by milk dealers. Isolated outbreaks he has always found associated either with washing-day, where a large quantity of hot water flowed into drains or cesspools, or there has been a communication between the sewer and steam-pipes, so that the temperature of the sewage has been raised to blood heat. The connection between "tub-night" and attacks of croup was proven in Edinburgh forty years ago. He believes the micrococcus peculiar to the disease has been discovered. The conditions necessary for its development are as follows: The presence of (1) certain forms of excreta. (2) Moderately elevated temperature. (3) Moisture. (4) Excess of carbonic acid or some other acid in the air. (5) Some other meteorological condition not yet fully known. In all of these particulars he finds a marked analogy in the potato-disease. The sequelæ of diphtheria he explains by the supposition that, while the greater part of the spores are eliminated from the system, some remain, and are taken up by the blood-vessels, producing ulcerative endocarditis, for example. From this, again, infected emboli may arise. Many obscure inflammations of different organs may thus be explained. For the general treatment of diphtheria and its sequelæ, the author is a strong believer in the sulpho-carbolate of soda, especially when the fever is high, and alkalies to reduce the acidity of the blood. Relapses are likely to occur if the medicines are left off too soon. As a local application, washed sulphur is preferred. It may be blown into the throat as a powder, or mixed with glycerine or honey and applied with a brush, alternating with a solution of sulphuric acid.

The Pathology and Etiology of Diphtheria.—E. F. Willoughby, M. B., in a paper read before the British Medical Association (*British Med. Journal*, March 1), lays down the following principles:

Diphtheria is an infectious, specific, though perhaps not highly differentiated disease; characterized by inflammation of all or any part of the tonsils, fauces, pharynx, nares, and larynx, with the exudation of lymph, epithelial cells, leucocytes, with submucous thickening. There are blood-changes manifested by pyrexia and albuminuria, and also paralysis of the heart, muscles of deglutition, voluntary muscles, special senses, anesthesia, etc., these serving to differentiate from non-specific pharyngitis.

The local dangers are: (1) putrefaction of the inflammatory products, and absorption into the blood; (2) obstruction of the larynx by the membrane; (3) paralysis of the glottis from inflammation of the muscles. That the cause of suffocation is not spasm is evident from the fact that muscles, when inflamed, are not the subject of spasm, but of paralysis; that expiration is not obstructed until the glottis is covered by membrane, and that the same symptom results from division of the laryngeal nerves. With reference to the relation of membranous croup to laryngeal diphtheria, the author states that the symptoms and consequences are identical, and that to maintain a distinction any longer is unscientific and of no practical value.

Though the great majority of cases of tonsillitis and pharyngitis are purely catarrhal, from cold and wet, etc., yet they may be produced by septic agents, such as sewer gas. Between such cases and diphtheria it is impossible to draw any satisfactory line of demarcation. Both clinical experience and analogy justify us in believing that they are the same. As we may have scarlatina without an eruption, smallpox with but a single pustule, typhoid fever without any marked intestinal derangements, why not diphtheria without false membrane in the throat? The author believes that diphtheria is far more frequent than is supposed, and that all, or nearly all, cases of sore throat from unsanitary conditions, and affecting simultaneously or consecutively several members of a family, are to be considered as diphtheria.

The author is a firm believer in the connection of this disease with sewer gas, fecal and other putrid acccumulations in and about dwellings. These latter conditions are quite as likely to be found in the country as in cities.

The Spinal Cord in Infantile Paralysis. Dr. Angel Money reported to the London Pathological Society (*Lancet*, Feb. 23) two cases, one in which death occurred sixteen weeks after the paralysis came on, and the other five years after. The recent case was in a child of two years, and both legs were paralyzed. In the centre of the lumbar enlargement there was great vascular engorgement and infiltration of the anterior cornua, with leucocytes; the true nerve cells could not be discriminated. The disease was not sharply confined to the anterior cornua, but spread away more or less in all directions.

In the old case, the right limb was greatly wasted and shortened. This cord showed almost complete absence of nerve cells on the right half of the lumbar enlargement. The anterior horn was wasted and composed of dense nucleated tissue which stained deeply. The changes were less marked the farther away one went from the centre of mischief. The author believes the majority of cases to be of vascular origin; *i.e.*, some damage not of a permanent character is done to the walls of the vessels, and all the phenomena of inflammation ensue on such mischief. When hemorrhage occurred, it was to be regarded as an accompaniment of inflammation.

L. EMMETT HOLT, M.D.

Spinal Paralysis with Cerebral Complications due to Intestinal Irritation. Dr. G. H. Arton (*N. Y. Med. Record*, March 8).—A girl, between four and five years of age, supposed to be suffering from worms, was given a vermifuge by her parents. The symptoms consisted of an increasing inability to use the legs, great peevishness, and somnolence. When seen by Dr. A. there was in addition paresis of the anus, with tremor of the hands and incoordination. Temperature normal, respiration subnormal if anything; pulse rapid, small, and hard; hyperesthetic; pupils widely dilated and feebly responsive to light; bladder and bowels unaffected, the latter said to be regular daily; urine, chemically and microscopically, negative. A dose of calomel was given without effect; an enema to the amount of a pint of fluid was given with like result, a second returned scarcely stained. The patient now became worse. Speech thick; somnolent, but could be aroused to consciousness only to relapse into the same condition; when awake complained of abdominal pain.

"Feeling almost certain of the diagnosis (cerebral anemia), morphia was given in $\frac{1}{2}$-gr. doses. In a short time improvement took place, a number of hard fecal masses being passed. In a week she had almost entire control of her legs, although her gait was unsteady for a month. Her speech remained affected for several months.

Force in the Treatment of Resistant Club-Foot.—Dr. E. H. Bradford (*N. Y. Med. Record*, March 22) figures an apparatus, the object of which is to exert pressure, under control of the operator, in three different directions, and also to enable him to twist and raise the front of the foot in cases of obstinate, relapsed, or half-treated congenital talipes equino varus. The apparatus is simple, and its application easy and effective. Of 16 cases treated by it, the age of the oldest being 15 and the youngest 1½ years, the average being about 5 years, the result in 10 was perfect—that is, the patient stands and walks on the whole sole of the foot, and can, while standing on the heel, flex the front of the foot, there not being any projection of the astragalus or other tarsal bones. In 3 the result was nearly perfect—that is, the heel can be brought to the floor without twisting the foot, but the front of the foot cannot be flexed without raising the heel. In 3 the result was imperfect—that is, fell short of the above standards.

The Principles of Early Diagnosis in Potts' Disease.—Dr. C. E. Webster (*Jour. Amer. Med. Ass'n.*, March 15), in a paper on this subject read before the Chicago Medical Society, emphasized the evident neglect of treatment in the early stage, due to ignorance, as proved by the number of deformities to be seen. He gave a comprehensive and valuable compilation of the method to be used in the differentiation of the disease, from strain or cellulitis, hysterical spine, muscular rheumatism, and morbus coxarum, each considered with respect to the prodromic stage, motions and attitudes, pain, intermittent and constant, stiffness, jar and pressure, extension, early deformity, paraplegia, and tumor.

Tetanus Caused by Toy-Pistol (*Jour. Amer. Med. Ass'n.*, March 22).—Dr. Roswell Park (Proceedings Chicago Medical Society) reports the following: A boy, aged ten, injured the palm of his left hand, by means of a toy-pistol, on July 4, 1883. Seven days afterwards he was brought to the hospital suffering with "clonic spasms of the muscles of the back of the neck with tonic exacerbations." Anesthetized, palmar wound opened under the spray, was found foul, and contained a piece of wadding, which was removed and the cavity scraped. The ulnar, median, internal cutaneous nerves, and nerve of Wrisberg, were exposed at the inner border of the biceps brachii, and stretched in each direction. Wound was closed over a drainage-tube, and iodoform dressings used. Squibbs' ext. physostig., one-fifth of a grain hypod., every two hours, was given; also, sodii bromid., ten grains, every two hours, and chloroform inhalations during any tetanic seizures. Evening condition, six hours after operation, very satisfactory. Next morning he complained of pain about the head. He died within an hour, apparently from spasm of the diaphragm. No autopsy allowed. Dr. P. concludes that temporary relief was afforded; that perhaps the musculo-spiral ought also to have been stretched; that probably too much sedative and too little stimulating treatment was employed.

Malarial Poisoning in the New-Born. Dr. W. T. Taylor, Proceedings Obstet. Soc. Phila. (*Jour. Amer. Med. Ass'n,* March 22).—A patient in her second pregnancy was suffering with malarial fever, and was obliged to take quinine occasionally until her confinement. Her labor was natural and easy. The nurse called my attention to the child, one week after its birth, on account of the "weak spells" it had, accompanied by coldness of skin, and prostration, lasting fifteen or twenty minutes. These attacks had a periodicity occurring every two or three days. The mother was given quinine and iron, the child small doses of elixir cinch. The attacks ceased.

Dr. R. P. Harris related a similar case, the child being treated as above, through the mother.

Lesion of the Sympathetic in the Neck (*Med. Record,* Jan. 5, 1884, from *St. Bartholomew Hospital Reports,* Vol. XVIII, 1882).—A boy four years and seven months of age presented the following symptoms: right hemiplegia and ptosis of right eyelid, pupil one-half size of left. Two weeks later left leg became paralyzed. At this time fever developed, and continued throughout the affection, temperature not rising above 100° F. One month later there was pain in the left shoulder and arm, with diaphragmatic respiration. All the leg muscles reacted fairly to the constant current. The cutaneous sensibility of the legs was diminished. About three weeks later both pupils responded to light and contracted to the same size under eserine. He could not move his legs or feel the prick of a pin; the sphincters acted involuntarily; the head was held a little to the left. After another week he only perspired on the left side of the face and the temperature in the right ear was 3° higher than in the left. Died about ten days later. Autopsy: At the apex of the right pleural cavity were two irregularly lobulated masses, which protruded from the vertebral column; they were of a yellowish-white color spotted with purple, and very soft on section. Microscopically they proved to be alveolar sarcoma. The right side of the bodies of the lower cervical and upper dorsal vertebræ showed a growth continuous with that mentioned above, extending also within the spinal canal confined to the same vertebræ, pushing the cord forward and to the left. The cord at the point of pressure showed, under the microscope, swelling of the large motor cells, the nuclei and processes of many being invisible. The right inferior cervical sympathetic ganglion could not be found. [The diagnosis previous to autopsy was Potts' disease.]

Empyema. Dr. G. M. Edebohls (*Med. Record*, Jan. 26). —CASE I. Recovery by absorption. A boy two and a half years of age was attacked with acute catarrhal pneumonia of right lung. Twenty-two days afterward physical signs demonstrated its complete resolution. Eight days after the commencement of the attack pyarthrosis genu dextrum was discovered, and six ounces of pus removed by incision under strict antiseptic precautions. A month later the incision had healed, the joint-functions being perfect. A few days before the clearing up of the pneumonia on the right side, the same trouble appeared on the left, and in twelve days had almost disappeared, when a pleurisy of the same side occurred, limited to the site of the pneumonia, viz., second to fourth rib anteriorly. It was found to be muco-purulent by hypodermic exploration. Six months afterward any evidence of the presence of fluid could not be found. Four months later a cavity occupied the left apex.

CASE II. Recovery by incision and drainage. A boy two years and ten months of age was taken suddenly with pneumonia of the left lower lobe, followed in a few days by pleuritic exudation. Twenty-two days from the beginning of the attack the fluid was found to be purulent. Owing to an intercurrent attack of measles, a free incision was not made until two weeks later. An opening with strict antiseptics was made in the seventh intercostal space, immediately below the inferior angle of scapula. About a pint of pus was evacuated, a drainage-tube inserted, and the incision dressed antiseptically. A little over two months afterward the opening closed. Seven months later both sides of the chest were equal in circumference, and the left lung fully expanded; the respiration was vesicular, and the resonance, on percussion, nearly normal.

Empyema; Pericarditis; Acute Pulmonary Tuberculosis. Dr. Heineman (*Med. Record,* Jan. 26).—A child (sex not given), eighteen months of age, three months previously had diphtheria, followed by pneumonia, from which it had never fully recovered, was found to have empyema of the entire left pleural cavity. The following day an incision was made in the eighth intercostal space on the axillary line; five ounces of pus were evacuated, and a drainage-tube inserted. Subsequently a counter-opening was made anteriorly. The child improved for a time, and then began to emaciate, dying twenty-two days after operation. Autopsy: Left lung compressed against spinal column, unaërated, and covered with a thick layer of fibrin and pus. Right lung, upper lobe, red hepatization; lower lobe, edematous; scattered throughout the lung were miliary nodules. The pericardium was distended with sero-pus, which was not known previous to the autopsy.

Remarks on the Subject of Cleft Palate. Dr. A. Vanderveer (*Med. Record,* Feb. 9, 1884).—The operation of closing a cleft palate is difficult. It is one of the few operations in which he regards chloroform as safe, not giving it, however, to those over ten years of age. In all cases complicated with single or double hare-lip, he would operate upon the lip-deformity as soon as possible; the cleft palate at the end of the first dentition, when the child is about two years' old. He is convinced that closure of the soft parts aids in bringing together the bony vault. To save the intermaxillary bone when possible he believes to be good surgery, as it preserves the fulness of the face; if it is impossible, he saves the skin covering it for the same reason, but to a less degree of success. In regard to closing the single or double hare-lip, "the law is inflexible" that the vermilion border of the lip must always be on a line, projecting, if possible, a little; if not, an apparent notching will occur. In order to obtain the best result in regard to speaking, it is very necessary to train the parents or nurse how to instruct the child properly.

Operation for Double Hare-Lip. Dr. J. P. Creveling (*Med. Record,* Feb. 9. 1884).—The principal point is to dissect the cheeks freely from the bone, and also "divide the alæ of the nose," thus giving an unusually broad surface for union.

JOHN VAN VORST, JR., M.D.

Stenosis of Trachea following Prolonged Wearing of Tracheotomy Tube. Dr. G. M. Lefferts (*Med. Record*, April 26).—A medical student, twenty-five years of age, had noticed for a long time a peculiar whistling noise during inspiration and difficulty in clearing his throat of mucus; but neither caused any particular annoyance. He was well developed, with a fresh, bright color, and was unconscious of any respiratory difficulty. A laryngoscopic examination revealed a stenosis of two-thirds of the lumen of the upper trachea. In explanation, he stated that when three years of age he was tracheotomized for so-called diphtheritic croup. The tube was worn without intermission, except to be cleaned, for nearly eight years. Why it was not removed earlier, he does not know.

Tracheotomy in Diphtheria, Under Two Years, Successful. Dr. N. Mayer (*Med. Record*, April 26).—The patient was in a moribund condition, so that it seemed useless to perform the operation. However, as soon as the trachea was opened, and air entered, the child revived, and in sixteen days the tube could not be returned through the opening, the child being able to articulate.

Mortality Statistics of New York City with Reference to Diseases of Children (*Med. Record*, April 26).—Total number of deaths in the city, 34,011. Total number of deaths of children under five years of age, 13,856:

Cerebro-spinal fever,	223
Convulsions (infantile),	514
Croup, membranous,	644
Cyanosis and atelectasis,	248
Diarrheal diseases,	2,897
Diphtheria,	1,009
Hydrocephalus and tubercular meningitis,	560
Inanition and want of breast-milk,	229
Measles,	716
Meningitis and encephalitis,	749
Scarlatina,	744
Whooping-cough,	327
	8,860

Leaving 4,996 which cannot be accounted for from the data at hand. The difference in the mortality between tenements and private dwellings is one-half per cent. greater in the former.

In Russia (*Med. Record*, May 3), more than sixty per cent. of infants die before the fifth year. Nearly two million children perish every year. Not one-half the males attain their twenty-fifth year; and of those who do, one-third, by reason of shortness of stature and weakness of body, are unfit for military duty.

The Wet-Nurse vs. The Bottle.—Dr. C. Cleveland (*Med. Record*, May 3) read a very interesting paper before the Practitioners' Society of New York upon the feeding of infants, in which he gave his reasons for preferring the bottle to the wet-nurse where the mother could not nurse the child. If a wet-nurse was to be employed, she should be preferably a young, healthy, under-thirty-years-of-age primipara, who had lost her own child. The difference between the age of the milk and that of the child should not be more than six weeks. If a bottle was to be used, he recommended buying a closed nipple and making the puncture with a needle heated red-hot. In this way, the milk would enter the stomach slowly and proportionately to the gastric juice secreted. The milk should be obtained from a number of cows for the sake of uniformity. The child should be fed regularly, and not every time it cried. An infant's stomach at birth holds about four ounces; at the second month, six; at the sixth, eight to ten. The amount of food given should be regularly increased, and the amount of diluent diminished. After the third month, the last food should be given at 10 P. M., and the child should sleep until 6 A. M., not awakening to take food.

Canned condensed milk contains too much sugar to be good, but this does not apply to that made fresh every day. The advantages of the bottle are summed up as follows: "The physical defects of the bottle we understand pretty well, and can, to a great extent, guard against them. Its moral qualifications, compared with those of the wet-nurse, are simply sublime." In the discussion which followed, Drs. H. F. Walker and William M. Polk thought that the difficulties of obtaining a satisfactory wet-nurse were not so great if sufficient trouble was taken. The advantages to the child in the hot weather and during dentition or disease were very great. The age of the milk was thought to be not of much importance. Dr. Kinnicut referred to two cases where neither human nor cow's milk could be digested, and resort was had to koumiss with satisfaction.

Etherization per Rectum; Death.—Dr. R. F. Weir (*Med. Record,* May 3) operated upon a robust child aged eight months for hare-lip, ether being given by rectum. The child was fully etherized in three minutes; the amount of ether used during the operation was less than two ounces. The child was somewhat depressed after the operation, but rallied under hot applications, etc. During the night it had several large and bloody passages, and died in the morning.

Dr. Wm. T. Bull (*Med. Record,* May 3), in his report of seventeen cases of etherization per rectum, all of whom were adults, says in reference to the bloody stools which occurred in seven of his patients: "In even smaller quantities than any of my patients have absorbed, it might, in young or enfeebled persons, produce death from diarrhœa and collapse."

A Heart Murmur heard in Utero.—Dr. E. C. Cordell read a paper before the Medical and Chirurg. Faculty of Maryland (*Med. Record,* May 3), upon the absence of one of the segments of the mitral valve of a child who had died cyanotic one hour after birth. Some hours before delivery a systolic murmur had been recognized, which was supposed to be located at the mitral orifice. The autopsy revealed the lesion mentioned above. The condition appeared to be due to defect in development and not to pathological causes; there was not any other abnormality.

Peritonitis; Thrombosis of Umbilical Vein.—Dr. J. L. Smith presented to the New York Pathological Society (*Med. Record,* May 3), specimens removed from a female child, fourteen days old, who died from peritonitis. There was nothing unnatural about the birth of the child, and absence of any evidence of septic poisoning in the mother. A week previous to death the child had been fretful and had some fever, but bowels were regular. The umbilical cord separated on the seventh day, the surface being raw, and afterward slight oozing of purulent fluid occurred. The autopsy revealed acute diffuse peritonitis; the umbilical vein, from the navel to the liver, being filled with a grayish material, which showed in places a broken-down, purulent thrombus. Puerperal fever had occurred in the maternity ward within three or four weeks, and two infants had died of peritonitis associated with erysipelas. The mothers did not present any abnormal symptoms. Dr. S. had been puzzled to account for the causal relation between the thrombosis of the umbilical vein and the peritonitis.

Dr. W. H. Welch (who had made the autopsy) suggested that micrococci might pass through the walls of the vein.

Dr. W. P. Northrup had met with four cases of peritonitis in children, aged respectively 9, 11, 21, and 2 months old. In all the umbilical vein was found free from thrombi.

Dr. S. said that it was a well-known fact that new-born children were especially liable to peritonitis, and in a considerable number the cause was to be found in the umbilical vein.

Dr. Putnam-Jacobi said that Henoch held that all cases of peritonitis in the new-born were due to puerperal infection in the umbilical vein, as usually thrombus of the vein accompanied it. Schultze had pointed out that there was greater liability to septic infection in children who had been born asphyxiated, as under such circumstances aspiration is imperfectly performed, the veins collapse imperfectly, and thrombi are formed which furnish material for septic poisoning.

JOHN VAN VORST, JR., M.D.

Epiphysitis.—Mr. C. Macnamara read a paper on this subject before the Royal Medical and Chirurgical Society (*Medical Times*, April 26). He includes under the term *diffuse ostitis of children, osteomyelitis during period of growth, suppurative periostitis and acute necrosis.* He considered the disease with especial reference to the tibia. It might run its course without affecting either the knee or ankle. It might give rise to necrosis of the entire shaft, to abscess of the bone, or to diffuse sclerosis and enlargement of the bone. The starting-point of the inflammation was the line of junction of the diaphysis and epiphyseal cartilage. It extended along the soft structures of the cancellated tissue and the Haversian canals, involving the medullary canal and the deep layers of the periosteum. It often led to suppuration or to necrosis of the diaphysis, which might be destroyed without affecting the epiphysis or the neighboring joints. Arthritis was always secondary. Necrosis did not always follow. Early treatment often saved the bone. Sometimes the inflamed diaphysis became simply sclerosed with increased periosteal growth.

Symptoms.—Two of the five cases reported were at first mistaken for articular rheumatism. It began with pyrexia, great pain, and swelling near the joint. The whole limb became swollen and of a brawny hardness, abscesses formed, and in many cases the necrosed diaphysis could be felt.

Treatment.—In the early stages free incision down to the extremity of the affected diaphysis and drainage. In severe cases trephining of the bone may be resorted to.

Mr. Holmes dissented from the conclusions arrived at. Epiphysitis was manifestly a misnomer, as the epiphysis was unaffected. The disease was by no means confined to childhood. The majority of these cases were familiar under the name of acute periosteal abscess, the minority as osteomyelitis. When osteomyelitis was secondary to subperiosteal disease, trephining was not called for if suitable previous treatment had been adopted.

Mr. Boswell agreed with Mr. Holmes as to the name epiphysitis. He thought trephining useful, especially when the disease began in the medullary cavity.

Masked Cerebral Tuberculosis in Children. J. S. Bristow, M. D. (*Brit. Med. Jour.*, April 26).—The writer reports five cases. Two were cases of tubercular meningitis, with classical symptoms, but followed injury. One boy ten years old was severely boxed on the ears at school; headache and nausea followed immediately, and after a three weeks' illness he died. The autopsy showed: excess of fluid in the ventricles, numerous miliary tubercles at the base of the brain, but no evidence of injury to the bones or soft parts within. The thoracic organs were free from tubercle; the abdominal organs were not examined. The boy was stated to have been perfectly well up to the time of the injury.

The second case occurred in a boy two and a half years old, who, with the exception of some convulsive attacks in infancy, supposed to be due to teething, had been well until he fell down stairs. He said he had hurt his head, was pretty well for three days, when he became fretful, irritable, constipated, etc., dying after an illness of seventeen days. The autopsy showed distension of the ventricles of the brain with fluid, many tubercles, and some lymph at the base, an encapsulated calcareous mass with a few tubercles about it at the apex of the left lung, and miliary tubercles in the liver and spleen. The other organs were healthy. The special interest in these cases is that symptoms followed so closely the injury, and that there was no clinical evidence of tuberculosis in the other organs.

There was no sufficient reason, the author states, for supposing that the tubercular deposit was caused by, or even supervened on, the blow on the head. The natural course of events was more likely, first, a deposit of tubercles, unattended by obvious symptoms; secondly, the supervention of inflammation and dropsy from the local injury, to which, and not to the tubercular deposit immediately, the patient's death was due.

The opinion is given that in all cases of cerebral tuberculosis the early stage is unattended with symptoms; and that these only appear when the tubercles have either attained considerable bulk, or have implicated important parts, as tubercular tumors, or have become associated with inflammatory changes, as in meningitis.

In the third and fourth cases there was disease of the internal ear, and the cerebral tuberculosis found on autopsy was not suspected during life: first, because the symptoms were not characteristic; and secondly, because the presence of the ear-disease was deemed a sufficient cause of the brain mischief.

In one case a chronic otorrhea had followed measles and whooping-cough. This had led to facial paralysis. After a month's illness, without any very well-marked cerebral symptoms, death supervened from exhaustion. A slight cough and râles over both lungs were present. The autopsy showed caries of the temporal bone; a tubercular tumor in the right parietal lobule the size of a walnut, and two smaller ones in the left occipital lobe; no meningitis or miliary tubercles; bronchial glands enlarged and caseous; the apices of the lungs studded with caseous masses and many small cavities; mesenteric glands caseous; other organs healthy.

In the other case, the order of events was caries of the spine, psoas abscess, scarlatina followed by suppurative otitis, two attacks of convulsions followed by coma with paralysis of both external recti muscles, and of the right superior rectus and levator palpebræ; death four days after the first convulsions. The membranes at the base were studded with miliary tubercles; the meningeal inflammation was slight. The ear-disease had not extended to the surface of the petrous bone, and the dura over this was healthy. There were no tubercles in the other viscera.

The fifth case occurred in a girl of seven, whose father had had syphilis. For two or three months before she came under observation she had showed signs of paraplegia, without definite local signs of spinal disease. A week or two before she was seen a protrusion of the left eye and a fulness in the corresponding temporal region were noticed. She died after being under observation a little over four months; the paraplegia being incomplete and varying during the time; the exophthalmus and temporal swelling continuing; later, a discharge taking place from the ear, manifestly from disease of the bones of the orbit. Cerebral symptoms supervened a week or two before death, from which, combined with gradual exhaustion, she died.

The autopsy showed gray tubercles along the fissure of Sylvius, slight distension of the lateral ventricles with fluid, and softening of the left temporo-spenoidal lobe. The orbital plate of the frontal, great wing of the sphenoid, and orbital plate of the molar were carious and bathed in pus. There was an accumulation of cheesy pus under the temporal muscle, and the sphenoid beneath were carious. There was caries of the third, fourth, and fifth dorsal vertebræ. There was a little inflammation at the base of the right lung, but no tubercles here or in any other organ.

The temporal bone was not diseased; a communication between the temporal abscess and the external auditory meatus could not be traced, though it doubtless existed.

The facts adduced show that cerebral tuberculosis is often of very slow development, even years being required. The question is raised by the author whether this, like pulmonary tuberculosis, may not sometimes be arrested. From his experience he is inclined to think it possible, especially since we so frequently find the other organs free from tubercular deposits.

Food and Rickets. R. W. Parker, M.R.C.S. (*Brit. Med. Jour.*, April 26).—While conceding fully the importance of suitable diet for infants, the author believes that the constitutional factor is not sufficiently weighed in the production of rickets. Until the influence of heredity is more fully recognized, infantile rickets and infantile mortality will continue to increase.

Children who are nursed and well nursed undoubtedly suffer from rachitis. Hence some other element than artificial feeding must be introduced as a cause. On the other hand, if even breast-fed children develop rickets, how much worse is the condition of those who are nursed exclusively on artificial food. Very often it happens that a child that is not nursed is neglected in other particulars both before and after its birth.

Among the causes predisposing to rickets are mentioned intermarriages, dissipation, the late hours and other consequences of. exacting social life, the physical hardships and privations among the lower classes. All act alike in the constitution of the pregnant mothers and on the fetus *in utero*. Although the child of the poor woman is more frequently nursed than that of the well-to-do, a large proportion of these are given some kind of artificial food very early, especially during the day. Prolonged lactation, so common among the poor, with the idea of preventing conception by exhausting the mother's strength, depreciates her condition and acts unfavorably on the next child. Too frequent pregnancies form one of the most prolific causes of this disease.

The author states that it is unusual, at the present day, to see a child who has not some of the signs of rickets. This is due to what has been spoken of above as the "constitutional factor." It is, however, among the very poor, in whom both the constitutional and dietetic shortcomings are combined, that the extreme degrees are met with, though by no means exclusively. The ingredient of food to which has been ascribed the chief part in producing rickets is starch. So the object in the preparation of the various foods has been to change this to soluble dextrine. It seems strange that so harmless and bland a substance as starch should be accredited with the severe changes we find in rickets. The question of starch indigestion rests, at best, on a narrow foundation, though it has attained such widespread acceptance. A varied diet often proves useful, even when breast-milk fails to satisfy a child.

By way of prophylaxis, the first thing is to insist on due care and precautions on the part of expectant mothers, especially during the period of pregnancy.

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THE TREATMENT OF HYSTERIA IN CHILDREN.

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THE subject of hysteria in children is one that has received comparatively little attention. We find the majority of handbooks upon diseases of children making no mention of the subject, or, if mention is made, it is in such a mode that considerable doubt is left in the mind of the reader concerning the true nature of the disease. It is frequently a matter of surprise to find histories of sick children terminating in a diagnosis which, if applied to adults, would be called by an altogether different name. True it is that children suffer from different diseases; equally true is it that the symptomatology varies from that of adults; but, to many practitioners, a very simple malady, when occurring in a child, becomes to them the veriest enigma. Hysteria, that crux medicorum in adults, is one of these living enigmas when occurring in children. Although cases occurring in children have been reported from time to time, it is not until comparatively recently that the works upon diseases of children have given us chapters upon this subject (Henoch, Baginsky, Descroizilles). To West is due the credit of having first called attention (*Jour. f. Kderkhten*, 1860, and also his "Lectures on the Diseases of Children") to the "not uncommon" occurrence of a group of symptoms that cannot be called by any other name than that of hysteria. Although West speaks of malingering (simulation in his German article), yet in his table of contents (fifth American edition, 1874,) we find these cases noted as hysteria. All the modern authors, however, agree that hysteria occurs in children, and we find, scattered throughout the literature upon this subject, all the various forms, so that, in regard to symptomatology, the disease in children does not differ from that of adults. We note, furthermore, that all lay a great deal of stress upon the congenital and hereditary influence in the causation of this affection; that the factor of education and physical training is one of greatest importance in this disease. Knowing that both of these elements are at work, especially during childhood, we wonder at the alleged rarity of this affection. Zit (*Cntrlztng f. Kdhkde*, 1878, I. p. 147,) calls to mind the fact of the lack of development of the cerebral centres in childhood, so that both normal and abnormal functions cannot be expected to manifest themselves; yet a child of seven years of age uses its centres with facility; and, although deviations from their normal activity are not so apparent as in later life, yet long before this age enough can be obtained by the careful observer to justify him in the conclusion that the nervous system is not in good order. We are not astonished, therefore, in finding Briquet (*Traité Clinique et Therapeutique de l'Hysterie*,) state that in 426 cases of hysteria, 66 were between birth and ten years of age; and Jolly (*Ziemssen's Handbuch*, XII. 2, p. 455,) quoting Briquet as stating that the development in one-fifth of all cases occurs before the twelfth year of life, agrees with him as coming near the truth. I have been frequently impressed by the fact that in nearly all cases of severe hysteria the inception took place during childhood, and, judging by my own experience, fully one-half of all cases show nervous symptoms long before the period of puberty. But granting that the figures quoted above are correct, it will be seen that this disease is of sufficient importance to merit the free attention of all those engaged in treating children. Fortunately for us, as physicians, the hereditary factor plays a very important rôle in the production of this disease, and we may frequently ward off its development in children who would otherwise certainly become affected. It must be taken for granted, then, that children of neuropathic parents would, under proper circumstances, suffer from some form of nervous trouble. Given such parents, what can we do with their children in order to prevent the development of the nervous trouble now under discussion. The principle, in brief, is to develop their bodies as much as possible, to the neglect of their minds, if necessary. The education and physical training of such children ought to be directed by the medical adviser. He must see, in the first place, that this child has sufficient exercise. For this purpose gymnastics of all sorts are advisable; riding, swimming, if the child be old enough; in younger children, massage, beating and rubbing of the muscles, and cold sponge baths are very effectual. The child must be allowed to go out of doors; if unwilling, it must be compelled to do so, with its attendant. Right here there comes in a point that West insists upon very forcibly — the removal of the patient from its parents. The attendant must be judiciously chosen, so that the child may be influenced by its parents as little as possible. Aside from the fact that one hysteric always influences another, a nervous mother has a peculiar facility in detecting symptoms in her children, which finally become realities in the minds of the patients. In regard to education, it is always in place to keep these children out of school. If it becomes absolutely necessary, however, to send the child to a school, it will be found that upon the whole the public schools are preferable. The ideal school for one of these patients is such a one in which there are a great many pupils, but the hours very short, so that a great deal of time may be spent out of doors. I would especially caution against the study of music. It seems that very few are able to go through with a thorough course in this branch without suffering more or less from hysteroid troubles. It is not necessary to substantiate this statement by statistics; we need only examine the psychical life of most of our great modern musicians, and, in every case, some defect in the functions of the nervous system will be found. Another important point is the diet of the patient. These children seem to have weak stomachs; their digestion is easily affected by articles of food that have no bad effect upon their companions. Their appetite is capricious, and, when under full control of their parents, it is usually satisfied at improper times and by improper food; so that the first symptom that brings the patient to the physician is, in the majority of instances, that of dyspepsia. The diet, therefore, should be a light one; albuminous food, easily digested, starchy material, young vegetables, and fruit, cooked, or, if raw, quite ripe. Medicine in this disease, unfortunately, is of little benefit. It sometimes becomes necessary to give iron, both before and after development of symptoms, and great care must be taken to find a preparation that will not disorder the stomach. These prophylactic measures, as a rule, give us exceedingly good results; but very few cases are brought to the physician at this stage of the child's development. They are quite useful even after the development of positive symptoms, and their strict enforcement will certainly benefit all these cases. It is not necessary here to take up the treatment of all the various symptoms, individually, especially as this does not differ from the treatment in adults. I have found that the preparations of valerian have a marked effect upon nervous symptoms in children, not in any way curative, but always palliative. Electricity is a therapeutic agent that can be effectively used against some of the symptoms, but relapses occur constantly; aphonia returns, the convulsive seizures repeat themselves, and the patient finally becomes a source of anxiety to its parents and a torture to the physician. It is in those cases that have resisted all the ordinary means and methods of treatment; in those that are fast drifting into permanent ill health, or worse than this—physical and mental deformity; that I use a method, first employed by S. Weir Mitchell in adults. In order to make clear the practical application of this plan, in children, I report a case treated in this manner in full.

The patient, Esther H., comes to the Clinic of the Medical College of Ohio for treatment, with the following symptoms. She is ten years of age, has been sick for three years; first noticed trouble with stomach; digestion easily disturbed, vomits frequently; has headaches, incontinence of urine during the day and choreic movements confined to orbicularis ocularum and muscles of face. Eyes examined by ophthalmoscope reveal nothing in the fundus, but the oculist, Professor Seely, finds an error of refraction for which glasses are prescribed. It is hoped that the blephorospasm depends upon this error, and the child is told to report after having worn the glasses for a month. The family history is, that the mother and aunt are confirmed hysterics, the father eccentric, and the maternal grandmother died of phthisis. The child reports again; no improvement in the condition of her eyes; has had hysterical attacks, complains of fulness in the stomach; appetite good, but food regurgitates; has difficulty in breathing, passes urine frequently, and has spasms of the bladder; claims not to sleep well; is anemic. Ordered iron and arsenic. Reports to the Clinic from time to time, but no improvement noticed. Admitted to the "Home for Sick Children" March 19th. The symptoms continue. She is isolated, has massage and electricity applied, and put upon milk diet. Ordered one and a half quarts of milk a day.

March 20–23. Frets considerably, twitching of eyelids less; pain disappeared; temperature, normal; bowels, regular.

March 24–31. Angina follicularis developed; during week treatment stopped; patient somewhat reduced during this time.

April 1. Returns to treatment; general condition improved.

April 2. Had hysterical attack; screaming and calling for her parents; controlled by threatening with confinement in a dark room.

April 5. Child quiet and contented; no attacks; sleeps all night.

April 9. Night-nurse says sleeps all night; does not complain; takes milk readily; anxious to go home.

April 12. Condition, good; no more twitching of eyelids; sleeps well; appetite, good; allowed beefsteak.

April 17–23. Continues to do well; no return of any symptoms.

April 26. Discharged well.

It will be seen from this report that the patient was under treatment, without interruption, from April 1st to April 26th; the patient has been seen since this time, and up to the present, no return of any symptoms has taken place. The plan of treatment, in detail, is as follows: The patient must be confined to the care of a nurse, *i. e.*, must be removed from relatives or parents. This is imperative. If circumstances do not permit of the removal of the patient to another building, I have in several cases obtained good results by confining the child with its nurse to a room, forbidding visits of any sort. This part of the treatment is, probably, the most difficult to carry out; and if it is at all possible, the patient ought to be taken from the house of its parents. The next step in the treatment is to put the child to bed, where it remains until one week has elapsed from the time of disappearance of all symptoms. It is impossible, in any individual case, to predict how long it will be necessary to confine the patient in bed; upon the whole, the time is shorter in children than in adults. I always, during the first period of the treatment, insist upon a strict observance of the following rules: The child is to be left to itself as much as possible. Neither playthings nor books are to be permitted. It is necessary that a certain amount of moral force be allowed to act upon the patient in the beginning of the treatment. Herein the treatment given to children differs from that administered to adults. In observing these cases closely, one can hardly free oneself from the idea that a certain amount of malingering is also at work, materially affecting the child's symptoms. It is a notorious fact that nothing cures this so effectually as confinement to bed when combined with apparent neglect in the attendants. After the symptoms of the disease have begun to disappear the nurse visits the child more frequently, or if necessary remains with it all the time; the other restrictions are taken away, books and playthings are permitted, and the child is allowed to amuse itself. The patient is to have massage of the whole muscular system, applied every day, and this requires a trained nurse or manipulator. A weak interrupted current should also be applied daily. The sittings are not to be made too long, and the electricity especially seems to be very grateful to the patient. The diet at first should be milk only, the quantity given varying with the age of the patient. Very much less trouble is experienced in giving to children an absolute milk diet than to adults. After the digestive organs are perfectly restored to their normal condition, other albuminous food can be given, especially boiled and roasted meats. The condition of the bowels must be looked to. Sometimes we find constipation, sometimes the opposite, the result of the milk treatment. On account of continued diarrhea, it even becomes necessary, in some cases, to desist from an absolute milk diet and to order meats from the beginning. The object of the diet is to give to the patient as much digestible food as his digestive apparatus will bear. The quantity is to be regulated by the condition of the individual, and food must be given frequently. It is not always that the patient is anemic; some of these patients are occasionally very fat, and with them nothing succeeds so well in reducing fat and making blood as this method of treatment. The principles of this treatment are so well stated by S. Weir Mitchell, and so thoroughly carried out by his results, that it is necessary only to refer to his works upon the subject (*Fat and Blood, Rest in the Treatment of Disease,* and *Nervous Diseases*). The next question that will arise is, What kind of cases are fit for this method of treatment? I have endeavored to show that hysterical symptoms in children are of greater importance than in adults; it is the inception of a disease that is apt to last a life long; the disease leads both to physical trouble (trouble in the joints, for instance,) as well as to psychical deformity (moral insanity); the disease is more amenable to treatment in children than in adults. We, therefore, would be guided more by the length of time that symptoms have manifested themselves, and by their continuance, than by the severity of manifestations. A child that has complained constantly for one or more years ought to be subjected to this method in every instance. In regard to the permanent benefit derived from this treatment, my results have been very good. The number of cases treated by this method has not been very great, and all have been treated during the last three years; but in every instance entire relief has been afforded, and, to this day, without relapses. Undoubtedly the latter will occur when proper conditions arise, but certainly very much suffering has been spared both to patients and to parents. In regard to the moral effects of this method, the most surprising results are obtained in children. In conclusion, to illustrate this point, I report another case observed at the "Home for Sick Children."

Nellie H., aged eleven years, father drunkard, mother neurotic. Admitted October 20, 1883. Always healthy until two years ago, when she was bitten by a dog, supposed to have been mad. Had hydrophobia, consisting of convulsions and foaming at the mouth. The convulsions have continued ever since. Last May had scarlatina, and since then is unable to walk; lies in bed with legs drawn up, anxious expression upon face and tendency to strabismus; all organs normal; convulsions, tonic and clonic, affecting the whole body and very violent, loses consciousness apparently during them. Put upon rest and milk diet.

October 21. Convulsions ceased entirely; child rests well and is contented.

October 22. Mother visits the child, complains of the treatment, claims that the child is being starved, etc., and withdraws the child from treatment.

A week later the child is seen crossing the street as though she never had complained. Inquiries revealed the startling fact that the child had been well in every respect, since leaving the hospital.

It will be seen, then, that both the moral and physical effect is good in all cases. From the experience that I have had I can say that all classes of cases, violent or mild in their manifestations, can be benefited, and the disease ameliorated so that in future life it will probably be one of mild form. In regard to the latter point, continued observation and watching only can solve the question. If, then, as we have reason to hope, we have here a method at our command that will prevent the development of those chronic invalids, those helpless, pitiful objects that are an annoyance to others more than a plague to themselves, we ought to be very grateful.

Clinical Lectures.

PURPURA SIMPLEX ET HEMORRHAGICA.

A Clinical Lecture Delivered at the Chicago Medical College.

BY M. P. HATFIELD, M.D.

Professor of Diseases of Children, Chicago Medical College. Reported by H. S. Williams, M.D.

Gentlemen:—The first case presented to you to-day is, as you see, that of a girl about thirteen years old. Note carefully her appearance. She is seen to be very pale; her prolabia have not their normal redness, and an examination of the palpebral conjunctiva shows this also to lack its usual color. In short, the girl is decidedly anemic. Nothing further is apparent, except a suppurating sore just behind the ear, which probably results from caries of the mastoid process.

Inquiry elicits the fact that the girl has suffered from severe epistaxis, once or twice each week, for two months past. She complains also of having had "bruises" on many parts of her body, though she has suffered no blow or other injury. An examination of the left leg shows two or three bluish spots on the calf. Evidently they are due to extravasation of blood. At present there happen to be none of these on any other part of the body; but at various times in the past they have appeared on all parts of the surface of both trunk and limbs, constituting the most noticeable symptom, except, perhaps, the epistaxis. Auscultation has shown that occasionally a heart-beat is lost. This may be due to anemia. Excepting a general malaise, which, of course, affords no surprise when the amount of blood lost and the general condition of the patient are taken into consideration, the symptoms mentioned are the only ones noticeable. What, then, shall be our diagnosis? The only diseases that would be at once suggested by this train of symptoms are chlorosis, scorbutis, and purpura.

Is it chlorosis? We have the anemia, which is always a conspicuous symptom of chlorosis; but in that disease the skin of the patient has a peculiar greenish hue, which is not present in this case. It is safe, therefore, to conclude that this is not chlorosis.

Scorbutis has become a disease of such rare occurrence that its diagnosis is, from a practical standpoint, of comparatively little moment. It is essentially a disease of starvation, and is one of the most preventable of afflictions. Whatever may be the rationale, it is an empirical fact long known that vegetable acids act, in relation to this disease, as almost certain prophylactics. A certain Arctic explorer maintains that it is not the acid that is essential, and that anything that has recently helped to compose living tissues, vegetable or animal, is equally efficacious. This gentleman carries a number of reindeer on shipboard, killing one from time to time. This supply failing, he has discovered that lichens, whether of species ordinarily considered to be edible or not, act with equal certainty. Be this as it may, lime-juice is known to be certain in its antagonism; and the English laws now allow no vessel to leave port for a long cruise without a sufficient quantity of this or some other vegetable acid in cargo. The means of prevention being so certain in their action, and so easily applied, it is not strange that this disease has been almost eliminated.

Aside from the rarity of scorbutis in this country, which alone would be almost sufficient to warrant us in excluding it, there is, in that disease, a marked symptom that we do not find presented by the case before us, viz., sponginess of the gums, very like that of mercurial stomatitis.

Chlorosis and scorbutis excluded, the only disease presenting the symptoms shown by the case before you, is purpura. There are two varieties of this affection, the simple and the hemorrhagic. In the former blood extravasates only under the skin, in the latter it effuses from the mucous membranes as well.

The affection is due either to a weak, relaxed condition of the bloodvessels, or to the hemorrhagic diathesis. The latter, where it exists, is usually hereditary. I have now in mind a family suffering from this diathesis, three generations of whom have died from the effects of hemorrhage, and a member of the fourth, still living, nearly lost her life from the loss of blood following the extraction of a tooth. All astringents failed to stop the flow for more than a few minutes, until a plug of wax, placed in the cavity from which the tooth had been extracted, and held in place by a cork pressed firmly by the patient's opposing teeth, at last proved efficacious. No doubt a plug of plaster-of-paris would have answered the purpose as well, and with less inconvenience to the patient. When the condition is not hereditary, lack of nutritious diet and bad hygienic surroundings are potent factors in its production. It not unfrequently follows exhausting diseases, particularly rubeola. The so-called "black measles" and "black smallpox" are nothing but ordinary rubeola and variola complicated by purpura. The occurrence of this complication may so modify the type of the eruption of variola as to cause that disease to be mistaken for rubeola, and disastrous consequences sometimes result from the mistaken diagnosis. A purpuric effusion of blood into the knee and elbow-joints, causing tenderness and swelling, has sometimes been mistaken for a form of rheumatism (pebiosis rheumatica). The prognosis in purpura depends, of course, to a considerable extent, upon the gravity of the symptoms in any particular case, and upon complications. Recovery from the simple form is the rule; the hemorrhagic form is much more serious. If there be effusion into the serous cavities the prognosis is unequivocally bad. In some cases blood extravasates into the tubules of the kidney, a fibrinous clot is formed, and death later results from this disturbance of the functions of the kidney. In the case before you the prognosis must be a guarded one. Much will depend upon the occurrences of the coming year, because of the age of the patient. Should menstruation be established during this period, while the child is yet in a debilitated condition, there is great danger that it may prove extremely deleterious, if not fatal. Even if the patient escapes this danger, she will never be entirely safe, as she will be at all times liable to excessive hemorrhages from any slight injury; and so mild a disease as rubeola ordinarily is, would in her case prove almost certainly fatal. The fact that the patient's heart occasionally drops a beat by no means tells in her favor; as, though it may be due to anemia, and therefore be harmless, we cannot be certain that it is not caused by effusion into the tissues of that organ. Examination shows enlargement of the liver and spleen. If the latter happens to have undergone a waxy degeneration—a not uncommon condition, but one which we have no certain means of diagnosticating *ante mortem* — the prognosis is rendered even more gloomy. Nevertheless, the case is by no means hopeless, and we may be able to accomplish very marked improvement by treatment.

Amongst medicines for treatment, iron, strychnia, ergot, mineral acids, gallic acid, and others are suggested. Let us consider them somewhat in detail.

Iron would, at first thought, seem to be decidedly indicated. It has, however, a tendency to clog the liver and disorder digestion. It is generally well borne only by fairly good stomachs. Fothergill's rule, not to give iron while the patient has a coated tongue, and especially not if there are evidences of retired bile in the system, is a good one. In the case before us the tongue is not much coated, which is in favor of the administration of iron; and furthermore, the tonic effects of this remedy upon the heart—almost equal to that of digitalis—would be very desirable. But, on the other hand, the fact that iron strongly tends to bring on the menstrual functions, offers a contra-indication that more than balances all the possible good results that might be expected from its exhibition; so, in this case, we must rely upon other measures.

Ergot, on the contrary, in such a case as this, tends to retard the menstrual flow. Where there is a hard, tense uterus, this remedy sometimes acts as an emmenagogue; but in the relaxed condition that exists in the present case, it will have the opposite effect. Ergot is therefore unquestionably indicated. We will give it in the form of the fluid extract, equal parts with fluid extract hamamelis, directing two-thirds of a teaspoonful *ter in die.* Hamamelis is a remedy that we do not use as much as we ought. Its virtues depend partly, no doubt, upon the gallic and tannic acids that it contains, but it has additional hemostatic powers of its own. In hemoptysis it is often exceedingly valuable. It has fallen into disrepute partly, no doubt, because of its monopoly by the venders of proprietary medicines. The nostrum called Pond's extract is well known to be only an aqueous extract of hamamelis, but it by no means represents the power of the drug; as a legitimate preparation will often prove at once efficacious in stopping a hemorrhage which the other had entirely failed to check. A reliable fluid extract can be obtained, and it should come into more general use with the profession, as it doubtless will do when its value is more widely known and appreciated. Strychnia will be very useful in this case as a tonic. The combined effects of this and the remedies just mentioned, will act powerfully in the way of preventing relaxation and consequent stasis. The conjunction of a mineral acid with strychnia will probably add to its efficiency.

℞—Tr. Nucis vom., ʒi.
Acid. hydrochloric, dil., ʒss.
Aqua cinnamomi, q s ad, ℥iv.

Small teaspoonful every fourth hour.

Should epistaxis at any time be severe and not readily controlled, we may plug the posterior nares with cotton saturated with a solution of alum. This is seldom necessary, but in case it should be deemed advisable, no instrument that has been devised will enable you to accomplish this more readily than a rubber catheter and a bit of twine, used after the fashion of a Belloques sound.

INTESTINAL INDIGESTION.

A CLINICAL LECTURE DELIVERED AT THE CHILDREN'S HOSPITAL, PHILADELPHIA.

BY LOUIS STARR, M.D.,

Lecturer on Diseases of Children in the Post-Graduate Course of the University of Pennsylvania. Reported by Wm. H. Morrison, M.D.

GENTLEMEN:—The previous history of the little patient before you is very incomplete, since we can learn nothing except that she has been in bad health for some time. She is eight years old, and sufficiently tall for her age, but her face and limbs are thin. The muscles, however, are firm, and the skin is only slightly deficient in softness and flexibility. Her general strength is fair. The cheeks, as you will notice, have a moderately good, red color, and there are no dark rings around the eyes, although, if you will look closely, you will see that the conjunctivæ have a distinctly yellow tinge. Her tongue is perfectly clean, the papillæ normal, and the mucous membrane of the mouth healthy. Her appetite is good, there is no increased thirst, and she has neither vomiting nor eructations of flatus or sour liquid. She does not complain of abdominal pain, and the bowels are said to be opened daily; but I am inclined to doubt this statement, for the belly is very greatly distended, and you will at once be struck with the contrast which this part of the body bears to the rest. While thus markedly altered in size, the abdomen is painless on palpation, and percussion elicits a tympanitic sound, showing that the enlargement is due to gaseous distension and not to the presence of a solid tumor. The hepatic and splenic dulness are not increased. The heart and lungs are free from disease, there is no alteration in the pulse or surface temperature, and the urine is voided freely.

Now, what conclusions can be drawn from the points elicited in this case? In the first place, we can say positively that there is no gastric disorder, for the tongue is perfectly clean, the appetite good, and neither eructation, increased thirst, nausea nor vomiting is complained of. Still, the only symptom presented, viz., the uniform, great gaseous distension of the abdomen, indicates deranged digestion; consequently, we must look to the intestinal canal, or its accessories, for an explanation of the trouble. As already indicated, it is difficult to account for the absence of abdominal pain and disordered action of the bowels under the circumstances; but since these symptoms are denied by the patient, let us see if the meteorism can be referred to any other cause than simple intestinal indigestion. The abdomen is uniformly distended, is painless on palpation, there are no indications of a tumor, and very little constitutional disturbance, so that we may at once put intestinal obstruction from intussusception or fecal accumulation, for instance, out of the question. Sometimes, in ataxic cases, the muscular coat of the intestine, sympathizing in the general debility, ceases to afford the normal resistance to the contained gases, and these expanding, greatly distend the gut; but this cause cannot be acting here, for the patient is but little below par. Caseation of the mesenteric glands (tabes mesenterica), especially when complicated, as it frequently is, with ulceration of the bowels, has meteorism for one of its symptoms; but there is at the same time diarrhea and all the signs of chronic interference with the nutritive processes. Under such conditions the child wastes and grows pale and feeble, the face looks haggard, the sleep is disturbed, the appetite is capricious, and thirst increased. Dilatation of the abdominal veins is often noticed, and occasionally edema of the feet and legs is met with, while the discovery of an irregularly-shaped, slightly movable tumor in the umbilical region makes the diagnosis certain. These symptoms are entirely different from those presented by this case.

We are entirely justified, then, in attributing the meteorism to intestinal dyspepsia, which is the most common cause of abdominal distension in children.

Let us next study the manner in which the symptom is produced. There are no indications of impaired gastric function, and I think that we can assume that as far as the stomach is concerned, the work of digestion is well done; but you know that only the albuminous articles of the diet are digested in the stomach, that a part even of this class of food passes the pylorus unaltered, and that the starches and fats are unaffected by the gastric secretion. In the intestine, therefore, some of the albumen and all of the starch and fat of a meal must be digested. This is mainly accomplished by two secretions poured into the upper part of the duodenum, namely, the bile and the pancreatic juice; of these the first takes the lesser part, merely assisting the gastric digestion and helping to emulsify the fats—the bulk of the work falling upon the second.

The pancreatic juice contains four ferments: *a*, trypsin, which converts albuminous matter into peptones; *b*, curdling ferment, which curdles the casein of the milk; *c*, pancreatic diastase, which changes starch into sugar and dextrine, and *d*, emulsive ferment, which emulsifies and partly saponifies the fats. The major part of digestion is, therefore, accomplished in the intestine, and the pancreatic secretion is the most powerful and important agent; consequently, if this gland is at fault, if its secretion is diminished in quantity or poor in quality, more or less of each meal will remain in the intestine undigested, notwithstanding the fact that gastric digestion may be perfect.

You know, from a former lecture, that this undigested food, lying like a foreign body in the gut, irritates the delicate mucous membrane, causing catarrh with its uniform result, a hypersecretion of mucus, and from what has just been stated, you will infer that starch is one of the substances most likely to be imperfectly digested. There is present, then, a fermentable substance, starch, a ferment, mucus, and one of the encouraging conditions of fermentation, an elevated temperature. Of course, but one result can be expected, fermentation is set up, carbonic acid gas is liberated, and the intestine becomes distended.

As this explanation implies a catarrh of the intestinal mucous membrane, it would be interesting and satisfactory if we could find some proof of the existence of this condition in our patient. Constipation and the presence of mucus in the fecal evacuations, the common pathognomic symptoms, are wanting; but look again at the eyes; the conjunctivæ are, as you observe, quite yellow, indicating a slight degree of jaundice. Now jaundice, both in children and in adults, is most frequently catarrhal in its origin. In other words, it is due to more or less complete obstruction of the common bile duct by catarrhal swelling of the mucous membrane with the accompanying increased production of mucus; a lesion which is usually simply an *extension* of a preëxisting catarrh of the duodenal mucous membrane. Here, then, is the evidence which I think establishes the diagnosis.

For the successful management of this case a careful regulation of the diet is important. The starches and fats must be excluded, because they are digested in the intestine, and it is this portion of the digestive tract which we have found to be at fault; the starches are also unsuitable, on account of their liability to undergo fermentation, with the production of gas and a consequent increase of the abdominal distension. Three meals a day of the following articles of food should be taken. For breakfast, at 7.30 A. M., a bit of fresh fish, or the lean of a mutton chop, or a piece of tender beefsteak, with milk (either warmed or not, according to taste), and a single thin slice of stale bread, without butter. For dinner, at 2 P. M., the soft part of half a dozen oysters, a bowl of meat broth, entirely free from fat, or instead of this a piece of lean beefsteak, roast mutton or beef, a little spinach, or well-boiled cauliflower tops, and not more than a single slice of thin, unbuttered bread. For supper, at 7 o'clock in the evening, one or more glasses of milk, with a single slice of unbuttered bread. For drink, she must take nothing but filtered water.

The medicinal treatment must be directed to the improvement of the impaired intestinal digestion; and, as this has been traced to an inactive pancreatic secretion, we must endeavor to artificially supply the deficiency. Just as in cases of stomach dyspepsia, due to alterations in the gastric secretion, we administer with the food pepsin and muriatic acid, or supply an artificial gastric juice. Within the past few years a number of preparations have been introduced, purporting to contain the active principles of the pancreatic juice. One of these, Fairchild's Extractum Pancreatis, I have lately used extensively, and so far with very satisfactory results. To obtain these results, however, several things must be borne in mind: first, that the normal pancreatic juice is alkaline in reaction, and that acids greatly impair, if they do not actually destroy, the activity of its ferments; second, that in health, the pancreas throws out its secretion most freely from two to three hours after a meal has been swallowed, or about the time that the food is passing from the stomach into the small intestine; third, that at this time the contents of the stomach are still acid in reaction. These facts show us that, to be of any service, the Extractum Pancreatis must be given at the proper time, two and a half hours after taking food, and must be safely conducted through the stomach, a feat accomplished only by guarding it with a full dose of an alkali, as bicarbonate of sodium.

The proper dose for a child of the age of our patient is 2½ grains. I shall order her the following prescription:

℞—Ext. Pancreatis, gr. xxx.
Sodii Bicarb., ʒj.
M. et ft., chart, No. xij.

Sig. One powder to be taken 2½ hours after each meal.

Nux vomica is also indicated, partly to give tone to the muscles of the intestine, which must be in some degree weakened by the constant distension, and partly to encourage proper glandular action. I shall therefore order three drops of tincture of nux vomica with a teaspoonful of compound infusion of gentian, before each meal.

Finally, to assist in the reduction of the abdominal distension, it will be well to rub the belly thoroughly twice a day with a stimulating liniment, such as turpentine and olive oil, one part to three.

Clinical Memoranda.

VALVULAR DISEASE OF THE HEART; PURPURA HEMORRHAGICA; MALARIAL FEVER; SUBACUTE RHEUMATISM, COMPLICATED BY PERICARDITIS WITH EFFUSION, AND THIS BY PNEUMONIA—ALL OCCURRING WITHIN A PERIOD OF EIGHT MONTHS, WITH ULTIMATE RECOVERY.

BY L. EMMETT HOLT, A.M., M.D., OF NEW YORK.

Attending Physician to the Northwestern Dispensary, Department of Diseases of Children.

Annie F., aged eight years, came under observation first at the Dispensary September 18, 1882. She was thin and poorly nourished. A history was obtained of a severe attack of acute rheumatism, affecting the knees and ankles of both sides, four months before. She was brought for treatment now on account of palpitation and some dyspnea on exertion.

A systolic murmur was heard at the apex, transmitted to the left, not very loud, but still distinct. The heart was acting fairly well. The apex impulse was a little to the left of the mammary line. She continued under observation at irregular intervals, improving very much under the use of cod-liver oil, iron, and digitalis.

May 11, 1883. The history states that the heart was in about the same condition. A very loud, rather coarse murmur was heard both at the apex and behind. She was only occasionally conscious of any dyspnea. The general condition remained good.

June 1. She returned with purpura hemorrhagica. She had been complaining for three or four days of pain in the left side, anorexia, and general malaise. The body was covered with small punctate extravasations, which had been noticed for three days. The tongue was coated, there were no spots on the mucous membranes, she was anemic, heart *in statu quo.*

Under the use of ergot in full doses, combined with iron, the purpuric spots disappeared in the course of two or three weeks, and I did not see the case again until November. She was brought back then with the story of a general decline for a month, loss of appetite, constipation, etc., etc. For three nights she had had a decided fever, yesterday preceded by a chill. The purpura had returned, but was not abundant, except over the neck and shoulders. All the spots were small, about the size of a pin's head. The heart was about the same as at the last examination. Cinchonid. sulph. was ordered, gr. xx per diem. This attack passed away in a few days, and she remained quite well until December 14th, when she was taken with severe pains in knees, chest, and back, and some fever. She lay in her bed with difficulty, preferring to be bolstered up in a chair. Salicylate of soda was ordered, gr. xl per diem. By December 19th, the pains in the knees passed away, but she suffered much from palpitation and intense pains in the left chest for two or three days. Morphiæ sulph., gr. 1-16, t i d, and tincture digitalis, gtt iij, q 3 h.

December 21. The mother had been reporting her condition for several days, and to-day I visited the child at the house and found her as follows:

She was sitting propped up in a chair, with considerable dyspnea; face pale and expression anxious. The joint symptoms had all subsided; there was neither pain, tenderness nor swelling to be found. Temperature, 100¾°; pulse, 120; respiration, 45. The apex beat was felt in the fourth space, one inch to the left of the nipple. There was a wavy impulse communicated to the whole pericardial space. Percussion gave an area of dulness, extending to the upper border of the second rib, one and one-half inches to the right of the sternum, to the sixth rib below, and about half an inch to the left of the apex impulse. A double friction sound was heard over an area about two inches square, the centre of which was at the junction of the left fourth costal cartilage and the sternum. At the apex a very loud systolic murmur could be heard, differing both in time and character from the other sound referred to, and audible at the angle of the scapula behind. There was an absence of respiratory and voice sounds over the area of dulness. These were intensified at the left apex.

Digitalis, brandy, morphia, continued, and poultices to the chest ordered. The poultices were discontinued after a few days, and tincture of iodine applied. There was occasionally nocturnal delirium, but the case was progressing quite favorably until January 7, 1884, when the patient complained of a sharp pain about the right nipple. The temperature was 102° (axilla); respiration 40, pulse 140. Physical examination revealed an area of consolidation about half the size of one's hand, just below the right nipple. There was little change on percussion, but bronchial breathing was present, shading off into broncho-vesicular, bronchophony, and a few fine râles. The signs of pericardial effusion were not so extensive as at the last recorded examination. The general condition of the child was miserable. She was excessively anemic, very thin, almost emaciated; her features were pinched; the expression anxious and indicative of suffering; tongue thickly coated; no appetite whatever. The pulse was regular and of fair strength.

She had no night sweats and no diarrhea. During the next two days the signs of consolidation became more pronounced, but not more extensive; the temperature remained low. By January 19th almost complete resolution had taken place in the lung; only slight dulness, highly-pitched breathing, and a few râles remained. There had been no fever for a week. The pericardial friction sound was no longer audible, and the apex beat was three-fourths of an inch to the left of the nipple, and one inch below it. She had very little pain. The heart's action was irregular, and she was still subject to attacks of palpitation. Tincture ferri chlor. and malt ordered. She remained in about the same condition until February 1st, when she had a relapse of her malarial fever for a few days, not so severe as the attack previously noted, but leaving her very much prostrated. She lost all appetite, became disgusted with malt, cod-liver oil, and medicines generally. The physical signs in the lungs, however, had cleared up, and also those of pericardial effusion. Brandy was about the only thing which she would take.

I did not see the girl again until April 21st, when I called at the house to learn the result of the case. The mother stated that she had kept on with the brandy, and afterwards with beef, wine, and iron, for several weeks. The appetite gradually returned, the child began to gain in flesh, and she had now been in school for two weeks. She was found in excellent condition, plump, well nourished, with some color in her cheeks, appetite excellent, bowels regular, tongue clear. No abnormal signs found on a careful examination of the lungs. The heart's action was strong and regular. The apex impulse was three-fourths of an inch to the left of the mammary line. A loud systolic murmur was heard all over the chest in front, and very distinct behind, on the left side. Its point of maximum intensity was at the apex, and it was transmitted loudest to the left. No other abnormal sounds heard about the heart.

She suffered little or no inconvenience from the valvular insufficiency, as the following incident will show. A few days before, the mother reported, she had jumped the rope one hundred times in succession.

Remarks.—The history above narrated presents a number of points of interest. The first is the lower grade of acute inflammations which we see in patients debilitated by chronic disease. Thus the pneumonia did not seem to add anything to the general prostration, and very little to the gravity of the case; but for the attention having been called to the right chest by the acute pain at the outset, it might have been overlooked altogether.

The second point is the occurrence of pericarditis with effusion, in a heart already the seat of valvular disease.

Dr. Ashby, in the *Lancet* of April 5, 1884, reports several such cases in young subjects, all terminating fatally, in the course of a few months by the supervention of acute dilatation.

In this case, at the last examination, the hypertrophy was a little greater than at the first one, eighteen months before. The insufficiency was perhaps slightly increased, but the heart's action and the patient's general condition were better then than at any previous time while she was under observation.

Finally, the case illustrates the wonderful recuperative powers of children in chronic as well as acute disease. This is always surprising, even to those who observe many children, while to those who treat adults chiefly it is often astonishing.

UMBILICAL HEMORRHAGE; RECOVERY.

BY WM. T. PLANT, M.D.,

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Called January 5, 1884, to see a child five days old that had been bleeding at the navel for two hours. I learned that the father was syphilitic; that they had previously lost an infant from this cause, and that this child had a day or two before bled from one of its eyes. I noticed a purpuric spot on one cheek.

The stump was still attached, but had begun to separate at its lower part. Here the blood was welling up and running in a stream down into the crease of the groin. The infant was crying and kicking, as if in pain.

With shears I pruned away as much as half of the dried and blackened stump of the cord. I then filled the umbilical depression with liquid plaster-of-paris. As it hardened, two or three cracks occurred, in which blood soon appeared. Filling these fissures with fresh plaster, the bleeding seemed for a little time to have stopped. But pretty soon blood began to escape from underneath, and even through the hard plaster covering. I put on a fresh coating, but about as soon as one leak was stopped, another was established. Despairing of success by this method, I removed as much of the plaster as could easily be detached, and covered the rest with a compress saturated with a solution of persulphate of iron and glycerine—one part to two. This was covered with a layer of cotton-wool, and the binder applied rather tightly. The child was kept quiet with paregoric, and the dressing was not disturbed for four or five days. It was then removed; the stump had fully separated; healing was complete, and there was no trouble afterwards.

CONGENITAL ABSENCE OF NOSE AND ONE EYE.

Dr. T. Byron DeWitt, San Francisco, California, reports above malformations in an infant which lived only seven hours. In place of the nose there were rudimentary alæ. The only eye was abnormally large, and situated at the junction of the eye-brows, "presenting a most frightful appearance." There was a large cephalhematoma protruding from the widely open posterior fontanelle. The development of the extremities and body was normal. An autopsy could not be obtained.

TRIPLE PRIMARY MAJOR AMPUTATIONS IN A BOY FOUR YEARS OF AGE; RECOVERY.

DR. J. B. ARMSTRONG, Chicago, Illinois, reports the case of a boy, four years of age, receiving railroad injuries necessitating immediate amputation of, first, the right leg at the tuberosity of the tibia; second, the left thigh through its upper third; and third, the left forearm, just below the elbow-joint. There were also extensive contused lacerations of the scalp. The case did nicely until the sixth day, when the thyroid gland became enlarged to such an extent as to interfere with deglutition. Aside from this latter rare complication, the child made a quick and perfect recovery. "He has a peculiar mode of getting about. Reaching out with the hand, he jumps off the hip to the distance measured, similar to the gait of a rabbit, and by a rapid repetition of this act manages to locomote with comfort and satisfaction."

Current Literature.

1. HYGIENE AND THERAPEUTICS.

Lorenzo: Clinical Sketch Concerning Erythema in Early Infancy and its Treatment. (*Archivio di Patologia*, Jan.)

The author observes that erythema is one of the simplest and earliest to occur of the non-contagious inflammations of the skin. Its character justified the name which Hebra gave it, *erythema multiformie*, or polymorphous erythema. The author has seen the large number of 400 cases within a rather brief period, including *erythema simplex, papulosum, rubrum, exudativum, intertriginosum* (*intricatum*), and *nodosum*, hence his experience in this direction has been a valuable one. The appearance in *eryth. simplex*, or *eryth. simp. et papulosum*, is that of a papular eruption in different regions, with intervals of greater or less extent between the points. The arrangement may be annular, gyrate, or irregular. The color varies between deep and pale red, sometimes presenting a livid appearance, the redness being either diffuse or circumscribed. In *erythema intertriginosum* there are maculæ at intervals of varying area, and the color is between a dark-wine red and a scarlet. It is accompanied with more or less exudation, and in some cases there is ulceration and consequent destruction of tissue. In mild cases of either form there is no fever, but only a restlessness on the part of the child. In the intertriginous or urticarial form, however, one not infrequently finds febrile reaction, hyperesthesia, and pain; there may also be frequent convulsive movements. In regard to complications, seborrhea is frequently present, especially in the genital region; the parasite *tricothecium* of Neumann, and, in some cases *eczema marginatum*. The location of the *erythema* (simplex) is in the ano-genito-crural area at first, but it may spread and involve the hypogastric and peri-umbilical regions. The intertriginous form, with its various modifications, is usually limited to the joints, rarely extending to the trunk, neck, and face. The disease is caused by the contact of irritating substances, feces, urine, etc., with a very tender skin, together with the natural heat of the affected parts. The annular and papular varieties of the disease must be differentiated from a syphilloderm to which it bears a close resemblance, but the former is of a deeper red than the latter, which is also the more diffuse. In syphilitic infants, also, we may expect to find enlarged glands, or ozena, or both, and they are, of course, absent in erythema. The differential diagnosis from *erythema gyrata* with psoriatic resemblances is less difficult, especially from the fact that psoriasis is not a disease of infancy. With the different forms of eczema and prurigo the discrimination can usually be made with readiness. The prognosis, in all cases, is good, providing the children have proper care. The treatment, in simple cases, in addition to suitable hygienic and dietetic measures, is not elaborate, since it may be limited to the dusting of the inflamed surface with starch, lycopodium, or some other bland and unirritating powder. If considerable irritation exists, a solution of the acetate or bicarbonate of soda (saturated or even weaker) may be applied. In the intertriginous form cleanliness is a pre-requisite. The affected surfaces must not be allowed to come in contact with each other (thus avoiding chafing), and may be kept covered with unirritating powders. Baths should be infrequent, but in their stead, applications to the skin may be gently made with sambuco water, laurel water, a mild solution of Goulard's extract, a solution of bicarbonate of soda, or one of chlorate of potassa, of the strength of one gram to one hundred of water. In cases in which the hyperesthesia is very annoying, small doses of bromide of sodium may be given, by the mouth, from a mixture containing twenty to thirty centigrams of the salt to fifty grams of water or mucilage and water. In addition to the applications already mentioned, the author suggests as useful a liniment made from oleate of lime, oleate of zinc, glycerole of starch, or Wilson's benzoated ointment, either alone or combined with a suitable quantity of bismuth. In cases in which eczema is a complicating condition, green soap combined with oxide of zinc, in quantities which may be suggested by the given conditions, is recommmended.

Guaita: Benzoate of Soda in the Treatment of the Summer Diarrhea of Children. (*Bull. Gén. de Thérap.* [from *Gaz. degli Ospitali*, 1884, 26], April 30).

The author agrees with those who consider this a zymotic disease, caused either by a particular microbe, which is taken into the body from without, or by one which is developed in the intestines during digestion. As predisposing causes, are mentioned defective diet, bad hygiene, excessive heat. Acting upon this supposition, the author believed that, theoretically, benzoate of soda would be indicated in such conditions, and accordingly used it in fifty-three cases in which the ages of the patients varied between six months and two years. In thirty-five of these cases the disease had already existed, previous to the time of medication, from twenty-four to thirty hours; in the remaining eighteen cases it had lasted from six to fourteen days. Cure resulted in the first series of cases always in from four to eight days; in the second, after an average of twenty-one days; no cases in either series having been fatal. The following is the plan of treatment which was adopted: A moderate purge of calomel or jalap was first given, and then from four to six grams of the benzoate in one hundred grams of water, in divided doses, during twenty-four hours. The same quantity was given upon the second day, and upon the third a mild purge of magnesia or manna, after which the benzoate was resumed. Improvement invariably began after two days, the stools becoming less fetid, and the vomiting ceasing. During the treatment little food was given, but in its stead lemonade and generous wine. Milk and soup were entirely discarded, the former because it had been observed that its use, especially in the form of cow's milk, was followed by fermentation, and consequently by an increase in the severity of the disease. When the patients were nursing children, they were allowed to take the breast only four times in the twenty-four hours. In addition to the benzoate of soda, other medication might be employed in all cases in which it would seem to be indicated.

Bourgeois: Vaccination by Hypodermic Injection. (*Bull. Gén. de Thérap.*, April 30.)

The author discusses at length the various theories as to superficial and deep vaccination. The latter is thought to be objectionable on account of the connective tissue inflammation which is often induced; the former is often ineffective from the too free flow of blood washing away the vaccine, or other cause. The sequelæ which are possible after vaccination are also referred to, and (as it seems to us) in an exaggerated manner. The question as to the number of incisions and depositions of virus which are desirable is discussed particularly by reference to, and quotations from, statistics, in which it appeared that many patients dead from smallpox were found to have a small number of superficial vaccination scars, or in other words, that a small number of superficial incisions, with a correspondingly small inoculation (as to quantity [?]) of virus, did not furnish immunity to quite a large percentage of cases in which smallpox was studied. On the other hand, the greater the number of vaccination scars (according to the statistics in question), the more perfect the immunity. The author believes that, by the use of a suitable syringe, a hypodermic injection of a solution of vaccine (the emulsion of Warlomont is mentioned as appropriate) may be made, once in each arm, and be entirely efficient. The following questions are proposed, and can only be aswered after large experience. 1. Is the number of successes by the hypodermic method greater than by any other process? 2. What is the approximate quantity of vaccine matter requisite for a hypodermic injection? or in other words, is there a maximum which cannot be passed without resulting harm? 3. Does the accumulation at one point of all the inoculated vaccine matter render inflammation more probable than when it is disseminated through several punctures or incisions? 4. Is immunity from variola as complete by this process as by the others? 5. If equal success could be attained by this method with the one of many incisions, ought not this to be adopted? The author adds a table of thirty-two cases in which his method was carried out, and with satisfactory results. He thinks the subject is worthy of extended consideration and investigation.

Maag: Treatment of Diphtheria with Chinolin. (*Jahrb. f. Kinderh.*, B. XXI, H. 3.)

The author's paper records the treatment of a series of twenty-five cases of diphtheria with chinolin, in all of which, save one, recovery occurred, the exceptional case being that of a woman who was almost moribund when first seen. The membranes either disappeared entirely or in part eleven times in the course of two days, seven times in the course of three days, and three times in the course of four days. The average duration of treatment was seven and two-third days, which is somewhat longer than it would have been but for complications in three cases which delayed their recovery, and so increased the average duration. The applications, which were made morning and evening, so long as any membranes remained, were of a mixture which contained one part of chinolin and twenty-five of glycerine. In addition, gargles of chlorate of potash solution were used, hot external applications and port wine. The chief impression which was produced upon the author's mind by the mode of treatment herein mentioned was, that it made the course of the disease uncommonly simple, even in very severe cases. The pain disappeared and the temperature fell to normal as soon as the membrane disappeared. The same treatment was not so successful in the author's private practice as in his hospital practice, which suggests the superiority of hospital discipline for such diseases. He admits that his method might not be so satisfactory in other hands, but his success certainly makes further experimentation with the substance in question desirable.

Renou: Application of the Antiseptic Method to the Treatment of Croup and Croupous Angina. (*Archiv. di Patol. Infan.* [from *Bulletin de la Société de Méd d'Angers*], March.)

The author, realizing the difficulty of reaching the affected parts in these diseases by the methods of atomization or pulverization hitherto in use, resorted to the plan of rendering the atmosphere in which the patient happened to be as completely antiseptic as possible by the evaporation of an antiseptic mixture. The mixture was composed of 280 grams of carbolic acid, 56 of salicylic acid, 112 of benzoic acid, and 468 of rectified alcohol. To this was added sufficient boiling water, so that when the mixture was placed in pans for evaporation, each portion contained one gram of salicylic acid, two of benzoic acid, and five of carbolic acid, to two litres of water. The room must be well ventilated, and at a temperature of 20° to 25° C. The pan containing the mixture is in all cases to be placed by the bed-side, heat sufficient to cause steady evaporation must be applied to it, and the vapor directed toward the patient in as concentrated a volume as possible. By the author's plan, evaporation of the quantity of the mixture mentioned was accomplished eight times in twenty-four hours. The proportions of the antiseptic mixture may be varied in accordance with the intensity of the morbid process and the capacity of the room in which the child is lying. The evaporation process should be kept up until the disease is cured, or, in case tracheotomy has been performed, until the wound has closed and cicatrized. In fifteen cases which were treated during the past year by the author, after this method, there were but two deaths, both occurring from croupous angina and croup. Six cases of a similar nature were tracheotomized, five others recovered without the necessity of the operation. There were also two cases of croupous angina, which recovered without any complication.

Simon: Treatment of Dyspepsia in Children. (*Archiv. di Pat. Inf.* [from *Progrès Médical*], March.)

This selection is taken from the author's "conférences thérapeutiques et cliniques de maladiés des enfants." The scheme of directions which he lays down for the treatment of children who are suffering with dyspepsia, applies to such as have passed the fifth or sixth year of their life, but especially to those who are approaching puberty. The following are some of the recommendations which he makes: 1. Cold or tepid baths when there is no predisposition to bronchitis. The temperature of the water should be gradually lowered in accordance with the tolerance of the child. Alcohol may sometimes be added with advantage when cold water is used. 2. A mixture of gentian, rhubarb, and cascarilla, in the form of powder, tincture, or syrup, may be given with advantage before each meal, and to this should be added an acceptable form of nux vomica in cases in which children are weak and debilitated. 3. Some acceptable form of mineral water should be taken with the meals. The author recommends the waters of Vals and of Alet, taken alternately for eight days. 4. Some suitable wine or elixir containing pepsin should be given after eating, in order to facilitate digestion. 5. Fresh bread, feculent foods in excess, delicacies, and fats should be rigidly excluded from the diet list. As to the washing out of the stomach, which has proved so useful a measure in the dyspepsia of adults, the author admits that he has had no experience in the matter with children. If the foregoing recommendations be carried out, and do not effect a cure, the patient must have change of air and of scenery. (The last mentioned recommendation will vary, of course, with the country and season which are concerned in a given case.)

Königstein: The Cure of Ophthalmia in the Newly-born. (*Arch. di. Pat. Inf.* [*from Centralblatt für die gesammte Therapie*], *March.*)

The author believes that opthalmo-blenorrhea in newborn infants is due, without doubt, to infectious contact with the discharges of the mother, which discharges may be leucorrheal, gonorrheal, or lochial (sic?) in character, and, in any case, contain a microbe which is the cause of the disease. Consequently the question of prophylaxis becomes an important one, and suggests the following propositions: 1. The leucorrhea or uterine catarrh of the mother should be treated prior to parturition. 2. Vaginal injections should be used during labor, thus shielding the *conjunctivæ* of the child by antiseptic precautions. 3. If the disease has manifested itself, treatment should be of a character suitable to its etiology. For vaginal injections, as a prophylactic measure, the author recommends solutions of moderate strength of carbolic or boracic acid, or thymol, or a mixture of salicylic and boracic acids, and the same applications may also be made to the palpebral surfaces of the infant after birth. When the disease actually exists, the choice of treatment will lie between astringents and emollients. Some authors recommend the local application of an infusion of sambuco flowers; others advise compresses moistened with warm water, or with a weak solution of sulphuric acid. Others follow Von Gräfe's suggestions, in using a very weak solution of nitrate of silver. Hulke prefers a solution of alum, and Dujardin-Beaumetz the application of a solution of chloral. Yet others favor the alternate use of solutions of benzoate of soda and of tannin. The author gives the preference to the nitrate of silver applications above all others. He uses a two per cent. solution, and if the inflammation is accompanied by intense tumefaction, he adds bathings, or compresses of warm water containing in solution phenic or boric acid, thymol, salicylic acid, or permanganate of potash. In case of cloudiness of the cornea after the foregoing treatment, the author advises the instillation of a drop of solution of atropine into the affected eye. It is also especially desirable to prevent the secretions of the diseased eye from getting into the sound one.

Chambard: Preparation and Use of a Vaccinal Electuary. (*Le Concours Médical* [from *Lyon Médical*], May 3.) The author's excellent success with this medium of vaccination leads him to recommend it highly in the paper which is here abstracted. The electuary is a mixture of all the active constituents of the vaccinal pustule of the calf or heifer, with a watery preparation of glycerine. The method by which it is made is as follows: the pustules are carefully opened upon the fifth day, and the contents removed with equal care. The latter are treated to a glycerine and water bath, and are then mixed and rubbed together, with a little sugar, in a glass mortar. To the resulting paste is added a little gum-adraganth, until the mixture is of the consistency of glue or mucilage. This is then triturated with equal parts of distilled water and glycerine, and is then in condition for use. The author frankly admits that this preparation is less active than pure and fresh *vaccine virus*, and also that more of it is required to accomplish successful inoculation. The method by which it is best applied is that of scarification—three scarifications in the long axis of the arm being recommended. Of course, it is necessary to use the ordinary precautions against hemorrhage and consequent washing away of the vaccine matter. This is placed upon the end of a moderately sharp lancet, and carefully carried between the lips of the wound. The efficacy of the electuary is not supposed to continue longer than fifteen days from the time when the vaccine was gathered. The strongest point in its favor is the elimination of all danger of virulent contamination by doing away with the use of human vaccine. The author's results have been very gratifying. In original vaccinations ninety-six per cent. have been successful; in revaccinations, fifty per cent.

Leroux: Concerning Congenital Malarial Taint (Paludismo.) (*Archivio di Patologia Infantile* [from *Révue de Médicine*], Jan.)

The existence of this condition has hitherto been doubted by most authorities. The evidence which Leroux has collected leads him to take a contrary view of the subject, and he has expressed his opinions in the following propositions: (1) While it is impossible, as yet, to affirm with certainty as to the existence of congenital paludism, and to define with precision the hereditary elements in its etiology; (2) The fact that children are sometimes born with hypertrophied spleen, of mothers who are undoubtedly the victims of malarial fever, gives credence to the probable existence of a congenital and hereditary paludism, especially when the hypertrophy in question can be referred to no other cause, and is associated with certain lesions characteristic of the paludic cachexia. (3) Certain children born with this hereditary tendency, from time to time present phenomena of intermittent fever of the same type as that which has been observed in the mother.

Quist: Concerning Vaccination with Vaccine Matter Obtained by Artificial Cultivation. (*Le Concours Médical* [from *Paris Médical*], May 3.)

The author took a fragment of a pellicle from a vaccinal pustule of the fifth and the eighth day, placed it in a glass at a temperature of 30° C., the glass containing a sterilized fluid, and obtained a reproduction of vaccinal micrococci. Several children were inoculated with them, the result being a regular, normal, and preservative vaccination. Revaccination of the same children produced no effect. As a *control* experiment, the author placed the pustule pellicle in another liquid, and the micrococci were not reproduced. Inoculation with the liquid gave no resulting vaccine pustules. Thus, the author announces the discovery of an artificial *vaccine virus*, the effect of which, in fifteen experiments, was quite satisfactory. The formula for the culture-fluid is: serum of beef-blood, one gram; glycerine, one gram; distilled water, one gram; carbonate of potash, one centigram; white of egg, one gram; mucilage of gum-arabic, six grams; carbonate of potash (?), two centigrams. This mixture must be sterilized, and kept for half an hour, three days in succession, at a temperature of 60°.

Warfvinge: Internal Employment of Alum for Whooping-Cough. (*Jahrbuch f. Kinderh.*, B. XXI., H. 3.)

The author has had very good success in the treatment of whooping-cough with a two per cent. solution of potash alum (*potassii et aluminii sulphas*), in equal parts of water and syrup of orange-peel. Teaspoonful doses were given four times daily, and the only disturbance which was ever caused was constipation, which occasionally occurred. The mixture was tried only in undoubted cases of the disease, and experience showed that the earlier it was used, the better the results obtained. Improvement took place almost immediately. In some cases, in which it was discontinued, the cough returned, but was again checked by the renewed use of the mixture. In those cases in which it was not used until the cough had reached its height, the effect was not so immediate; but there was, nevertheless, a lessening of the frequency and intensity of the paroxyms, and the course of the disease was shortened, with only two exceptions. Inhalations of alum-vapor lessened the intensity and frequency of the attacks, but not the duration of the disease. On the whole, the internal employment of the drug seems to be the preferable method. In some cases a stronger than a two per cent. solution might be used to advantage.

Sarazin: Aphthous Vulvitis in Children, and its Treatment with Iodoform. (*Rev. Mens. des Mal. de l'Enf.*, May.)

The author has remarked the frequency of this condition, especially in hospitals, in children from two to five years of age. Its cause, in two-thirds of the cases, is thought to exist in measles, and it often develops into gangrene of the vulva. The prognosis, under ordinary conditions, is bad enough, but is less grave when the iodoform treatment is adopted. The iodoform should be dusted on in a thick layer, and the labia separated with a small piece of lint. This treatment should be repeated every twenty-four hours, and will usually result in a rapid cure. If the perineal body is also involved, it should receive the same applications. General treatment is also appropriate in most cases, and will tend to accelerate recovery.

Lamb: Poisoning by Quinine in Typhoid Fever. (*N. Y. Med. Jour.*, May 17.)

Dr. D. S. Lamb states that several articles have lately appeared in medical publications reporting dangerous symptoms following the use of large doses of quinine in typhoid fever. He gives the following history: A little boy, aged three years, had had a slight diarrhea and a mild fever for about a week, but no serious affection was suspected. On July 11, 1877, about noon, he swallowed eighteen three-grain, sugar-coated quinine pills, and shortly afterward took some rice and milk. In about half an hour he complained of pain in the epigastrium and was given an emetic, after which he vomited some food and one pill. He died of syncope a little after one o'clock, and about an hour after taking the pills. At autopsy, the heart was relaxed, with the right cavities empty, and the left containing a little fluid-blood; lungs congested posteriorly; malpighian bodies of spleen well marked; stomach congested, and presented a number of red ecchymoses; it contained undigested rice and one pill; duodenum much congested, and also contained one pill; Brunner's glands conspicuous and white; villi hypertrophied; upper part of jejunum much congested, and contained one pill; all the solitary bodies and Peyer's patches much thickened; villi hypertrophied. In ilium, the solitary bodies and Peyer's patches were progressively enlarged and villi hypertrophied. The cæcum, ascending and transverse colon, were congested, with solitary bodies enlarged. There was a slight extravasation of blood in the gastro-colic omentum. In this case one quinine pill was vomited, and three were found at the autopsy, leaving fourteen pills, or forty-two grains, which had been absorbed by the stomach and upper part of the small intestine. This part of the alimentary tract showed congestion and ecchymosis. Although in this case the clinical history was meagre, the intestinal lesions do not admit of doubt as to its being typhoid fever. The relaxed heart and fatal syncope are usually the manner of death in quinine poisoning. Death may very rapidly follow a large dose of quinine. This case derives further interest from the infrequency in which autopsies are held in children dying from typhoid fever. Henoch reports but ten in his large clinical experience.

Cleveland: Some Observations Upon the Feeding of Infants. (*Med. Record*, May 3.)

Dr. Clement Cleveland presents some observations that are the result of personal experience. If a mother cannot nurse her child, the milk of another woman comes next in order. The wet-nurse must be young —under thirty—healthy, and good-tempered; must have good breasts and nipples, and a fair quality and quantity of milk. As to difference between the age of milk and the age of child to be nursed, most writers of today agree upon six weeks as the time beyond which it is not wise to go. The child of the wet-nurse must be seen, and found healthy, and free from constitutional taint. A primipara, whose child has died, in general should be preferred. The wet-nurse—who often comes from a life of hardship and toil to one of luxury and idleness—naturally eats anything and everything that tastes good, perhaps taking little or no exercise. As a result, she grows ill, her milk fails, and a change has to be made. Notwithstanding the moral objections, the young unmarried woman makes the best wet-nurse. She can be more easily controlled. It is seldom that the first nurse suits, and often a large number have to be tried. In one instance a change had to be made thirteen times in two weeks. Cow's milk is the most available, and, next to woman's milk, really the best food for the infant. The milk of many cows is to be preferred to that of one, as it is more likely to continue uniform. Undiluted cow's milk is too rich in fat and caseine to be readily digested by the infant. During the early months the power of digesting fat is very deficient; the caseine of woman's milk curdles into delicate flakes, that of cow's milk into much larger. By adding water to the milk, the digestion of both fat and caseine is facilitated. It can also be helped by gelatine, barley or oat-meal water; or by some alkali, as lime-water, bicarbonate of soda, or potash. As to the strength of the dilution, Dr. Cleveland has found it an advantage to gradually increase the strength from month to month, according to the formula of the late Dr. Buckingham, modifying it as each case might require. He takes eight parts as a constant proportion for milk, and beginning with twenty-four parts for water, gradually decreases as follows: first two weeks, 8 parts of milk to 24 of water; second two weeks, 8 to 20; second month, 8 to 16; third month, 8 to 14; fourth month, 8 to 12; fifth month, 8 to 10; sixth month, 8 to 8; seventh month, 8 to 6; eighth month, 8 to 4; ninth month, 8 to 2; tenth month, pure milk. The stomach of the child at birth holds about four ounces, after the second month it will hold six, and the capacity gradually increases until, by the fifth or sixth month, eight to ten ounces will be required. From the first month the child should be fed every two hours. After the second month, every two and a half, or even three hours, may be often enough. A little water given between the feedings will often prevent fretting that is apparently due to hunger, but that is really caused by indigestion. It takes fully two hours for milk to digest. It is important in bottle-feeding that the child take the milk slowly into the stomach; the ordinary nipples allow the milk to flow much too freely. Dr. Cleveland now uses a nipple made without holes, into the apex of which one small hole is made with the finest cambric needle heated to redness in an alcohol flame. This allows the infant to draw the same amount of milk as from the breast. The can-condensed milk is too rich in sugar for infants, but that made fresh every day is not open to this objection. The doctor has seen so much trouble caused by wet-nurses, that he always advises the bottle where the infant is healthy, and the mother cannot nurse her child.

Warner, Dr. F.: Atropine in Whooping-Cough. (*Cin. Lancet and Clinic*, May 10.)

To test the efficacy of atropine in this disease, the number of paroxysms that occur in the daytime should be noted. The alkaloid should be given in 1-200 gr. doses, three or four times a day, and at the end of three or four days a decrease in the number of paroxyms will be observed if the medicine is to be beneficial. Dr. W. thinks atropine ranks as near being a specific as any of the remedies employed. The medulla being the seat of reflex phenomena, it is highly probable that atropine diminishes the tendency to reflex action. and also the capacity of the terminal filaments of the laryngeal nerve to receive impressions.

2. MEDICINE.

Gamberini: Scrofula and Syphilis. (*Rév. Mens. des Mal. de l'Enf.* [from *Gaz. Med. Ital., prov. ven.* 1884, No. 8], May, 1884.)

The author shows that scrofulous affections, in the majority of cases, are likewise a manifestation of tuberculous infection; and further, that scrofula, considered as an infectious disease, is in intimate relationship with syphilis. A comparison is made between the manifestations of scrofula and syphilis from an etiological, anatomo-pathological, and clinical point of view, the resemblances being very pronounced. He next discusses the literature of the past ten years bearing upon the subjects of syphilis, scrofula, and tuberculosis, in the departments of pathological anatomy, micrography, and experimental pathology, which demonstrates the great progress which has been made by the parasitic theory and the experimentation connected with it. The following conclusions are reached: 1. There is no ground for admitting a particular *habitat* for scrofula. The so-called benign forms of scrofula, whether of the skin or of the mucous membranes, are nothing but ordinary inflammatory processes, which do not of themselves prove the existence of any diathesis. The greater part of scrofulous affections, in regard to which there is any doubt, can be regarded as localized manifestations of tuberculosis. 2. Scrofulous affections, like the manifestations of syphilis, have an infectious origin. There is, however, an important difference between the virus of syphilis and that of tuberculosis; the first is of a fixed character, the second may exist outside of the human organism, and be propagated by the medium of the atmosphere. 3. Both virulent principles, when they find local and general conditions favorable to their development, tend, first, to produce specific local alterations, and then to become generalized, giving rise to phenomena which are more or less severe in character. 4. In tuberculosis, the penetration of the poison into the circulation of the blood is often effected in an acute manner, giving rise to febrile symptoms, as in the case of acute general miliary tuberculosis, which may be compared to the first manifestation of syphilis; their termination is, of course, essentially different. 5. At other times the tuberculous infection is developed insidiously, causing specific localized lesions upon the skin, in the subcutaneous tissue, in the joints, and in the bones. These lesions constitute precisely the greater portion of scrofulous affections. 6. It is the phenomena of scrofula which, by their structure, their appearance, their course, their clinical aspect, and their varied terminations, offer striking analogies with the products of tertiary syphilis. 7. When scrofula and syphilis are encountered in the same individual, the two affections usually follow out the evolution which is peculiar to each, without exercising any reciprocal influence upon each other.

Bergamo: Neither Diphtheria nor Croup. (*Rev. Mens. des Mal. de l'Enfant* [from *Archiv. di Patol. Inf.*, March], May.)

This paper was suggested by the case of a child, three years of age, of lymphatic temperament, from whose nose there was a copious discharge of thick mucus, and into whose stomach the same material passed in abundance by the posterior nares. The concomitant symptoms were redness of the face, slightly elevated temperature, moderately rapid pulse, soft belly, limpid urine, a bloody tinge to the nasal mucus, in addition to its abundance, a feeling of heaviness in the frontal sinuses, teeth covered with a fuliginous coating, gums red and swollen, a phlyctenoid eczema of the chin, rough and turgid tonsils, bleeding when touched, congested uvula, nasal voice, and intellect somewhat obtuse The examination of all the other organs yielded a negative result. On the second day an easily detached white exudate was observed, but it disappeared before the day was over. On the third day there was engorgement of the arotids and submaxillary glands, but none of the customary symptoms of diphtheria. On the fourth day the nasal mucus was as abundant as before, yellowish, viscid, and inodorous. The pulse was large and compressible, the tonsils speckled with flakes of easily detached mucus, and the eczema of the chin had faded There was no particular change on the fifth day. On the sixth day the eyes were half closed, the sleep heavy, and the respiration short. The isthmus of the throat was red and bloody with the softening of the mucous membrane. Adynamia was pronounced. On the morning of the seventh day there were added to the previous symptoms, pain in the forehead, dryness of the throat, two patches of a grayish ash color upon the tonsils, mucous râles in the bronchi, small and soft pulse, retracted abdomen, and a disturbed general condition. The following morning the child died, and no autopsy could be obtained. The diagnosis of phlegmonous rhinitis was at first made, but subsequently it was thought that the case might have been one of *morve*, or glanders. The child had been in the habit of playing in the neighborhood where a horse was used, almost continually, but no evidence was obtainable that it (the horse) suffered from the glanders.

Thiry: Concerning Hereditary and Infantile Syphilis. (*Archivio di Patologia Infantile* [from *La Presse Medicale Belge*], January.)

The author holds that the propagation of syphilis by heredity may occur through conjoined infection of both parents, or infection of either one. When the father alone is diseased at the time of conception, the mother contracts it (or may contract it) consecutively to the fetus. Should the mother be diseased at the time of conception, abortion will probably occur at the end of the second or third month, unless proper treatment has availed to prevent this accident. Should the mother become syphilitic after conception, abortion will probably occur at the end of the sixth or seventh month, unless antisyphilitic treatment accomplishes its object. A woman may contract syphilis six or seven months after conception, and carry her child to term—the child being apparently in good health when born, but manifesting syphilitic phenomena two or three months after birth. When the father is the main factor in the development of the poison, two methods of development are possible—either by the contamination of the mother during the period of active ulceration, or by the infection of the ovule through the medium of the spermatozoa. In the latter case, if the fetus reaches maturity, it will naturally be the subject of the syphilitic diathesis, and in most cases will be without strength or vigor, succumbing within two or three months from the time of birth. If the first supposition be realized, the new-born infant may be infected through the medium of one or other of his mucous membranes, or at the orifice of the genital organs, at the moment of parturition, in which case the disease would be a development in the child *post partum.*

Loeffler: Etiology of Diphtheria. (*Moniteur de la Policlinique* [from *Semaine Médicale*], May 4.)

Though there may be a difference of opinion as to the exact nature of the virus which produces diphtheria, there is no doubt but that the diseased mucous membrane, constantly in contact with the air, is the abode of multitudes of germs. Klebs has announced in one of his papers that a microspore is the vehicle of the poison, in another that the vehicle is a bacillus; but neither of his statements seems to have been established by subsequent investigations. Heubner thinks that all these organisms are merely accidental products. The author's investigations were made upon thirty-two subjects who had died from diphtheria. His discoveries were: (1) a quantity of atypical micro-organisms; (2) chains of cocci (*ketten-kokken*); (3) the corpuscles or bodies which Klebs has described. The second variety is found at points which have been denuded of mucous membrane; the third is found in the oldest portion of the false membrane. The experiments included the development of pure cultures and inoculations. The second variety of micro-organisms never developed diseases which resembled diphtheria. The third variety was cultivated in a fluid which was composed of glucose, blood-serum, and *bouillon*, together with one per cent. of peptone, one per cent. of grape-sugar, and one and two-tenths per cent. of chloride of sodium. The bacilli were propagated at a temperature of 20° C. The inoculations resulted in the production of false membranes and general affections which varied in character. The author's conclusion is that these micro-organisms play a certain part in the development of diphtheria, and that at the place of inoculation a chemical agent is present which is absorbed into the circulation.

Ribbing: Concerning Diphtheria, Croup, Angina, Scarlatinosa, Etc. (*Jahrbuch f. Kinderh.*, B. XXI., H. 3.)

The author, in the course of a period of five years of hospital practice (in a Norwegian town), did not meet with a single case of diphtheria, but each winter and spring he saw and treated isolated cases of true croup, which manifested no tendency toward contagiousness. After this period came an epidemic of diphtheria, in which the course of transmission and extension could be closely followed. The disease was remarkably contagious in character, and not infrequently children who contracted it suffered secondary laryngeal stenosis, following the pharyngeal affection. Others suffered paralysis of ocular accommodation, this trouble appearing after the epidemic had passed away. More careful investigation revealed the fact that those who suffered in this way were, in many cases, those whose trouble in the neck had been slight and transitory. The author observes that the character or tendency of the contagion in such cases is of great importance for differential diagnosis. He agrees with Henoch and Seitz, that the severe neck-complications in scarlatina, although it possesses decided anatomical resemblances to diphtheritic angina, is different from it, and is necrotic (*nekrotisirende*) in character. Clinical and epidemiological experience teaches that epidemics of diphtheria and scarlatina seldom occur in combination, though such an event is entirely possible. Practically, it is important to make a difference between the two affections. In simple necrotic angina with scarlatina, isolation is not necessary; but when angina exists in a combination of scarlatina and diphtheria, isolation becomes a necessity.

Vohsen: Contribution to the Knowledge Concerning Articular Rheumatism in Children. (*Archivio di Patologia Infantile* [from *Schmidt's Jahrbücher*], January.)

The author advances the opinion that acute articular rheumatism is an infectious disease. Usually, its intensity is less marked, as to pain and duration, in children than in adults. Twenty cases were seen by him, fifteen of them being in boys and five in girls. In seven of them there was complaint only as to pain in the joints. In two cases there was fever, swelling of the joints, and irregularity of the cardiac action. In four cases the disease occurred in the course of diphtheria and scarlatina, in nine it was complicated with endocarditis, and in two with pericarditis. In the febrile cases the elevation of temperature reached 39.6° C. In all cases the salicylate of soda exercised a favorable effect upon the articular trouble, but the cardiac complication was unaffected by it. In mild afebrile cases there seemed to be a greater tendency to the cardiac complications than in the severer forms. The mitral valve and the pericardium were the elements of the heart most frequently involved.

Burger: The Bacillus of Pertussis. (*Archivio di Pat. Inf.* [from *Berl. Klin. Wochen.*], March.)

The author claims to have discovered, in the sputa of children affected with whooping-cough, a bacillus, which is peculiar to the disease. His staining solution consists of an aqueous preparation of fuchsin and methyl violet. The bacilli appear in the rod-form, of different sizes, often joined in irregular masses, and are liable to be mistaken for *leptothrix buccalis.* He holds that this bacillus is the cause of whooping-cough for the following reasons: (1) it is found in no other expectoration which he has investigated; (2) its numerical volume, in a given case, is so great that it cannot fail to affect the system harmfully; (3) its numbers are in direct proportion with the intensity of the disease; (4) judging as well from its symptomatology as from the effects of treatment, it increases naturally by the development of this fungus.

Bouchut: Aphasia in Acute and Chronic Cerebral Diseases in Children. (*Archivio di Patologia* [from *Paris Médicale*] January.)

In an interesting paper upon this subject, Bouchut directed especial attention to—(1) primitive aphasia which is associated with grave cerebral phenomena; (2) that form which is manifested during convalescence from acute diseases; (3) aphasia which is symptomatic of acute or chronic disease of the encephalon. This condition has also been observed as consecutive to traumatic affections of the cerebrum, one case following abscess of the left anterior lobe, and others following tubercles of the cerebrum. In other instances, hydatids of the encephalon were an exciting cause. The information thus collected points to an absolute localization of the source of the faculty of speech in the left hemisphere of the cerebrum.

Eklund: The Microbes of Variola and Scarlatina. (*Rev. Mens. des Mal. de l'Enf.* [from *Bulletino delle Scienze Mediche.*], May.)

Since the investigations of Coze, Pelz, Riess, Klebs, and the author, it seems to be settled that there is a particular microbe of scarlatina. The author, in a note upon the contagious exhalations of scarlatina, announces that he has found in the urine of scarlatinous patients a large number of oval or round corpuscles, either colorless or yellowish white, and showing in the fluid of experimentation a rotary motion. As far as variola is concerned, the clinical and experimental analogy of a symptomatological character, which it has with other morbid infectious processes, suggest the existence of a microbe which has not yet been definitely proved.

Smith: Thrombosis of Umbilical Vein; Acute Diffuse Peritonitis. (*Am. Jour. Obst.*, May.)

Dr. J. Lewis Smith reports a clinic delivered by him, in which specimens were exhibited that had been removed from the body of an infant dying at the age of fourteen days. The birth had been normal, and the convalescence of the mother satisfactory. After the cord dropped there was a slight oozing of purulent-looking matter from the navel. When a few days old, the baby began to be unusually fretful, and when Dr. Smith saw the case on the fourteenth day, peritonitis had already been diagnosticated. The abdomen was much distended and tympanitic, and pressure on it evidently increased the suffering. The temperature was not high, and vomiting had not been a prominent symptom. Death occurred on the morning of the fifteenth day. At the autopsy the abdomen was found to contain six ounces of turbid serum and many flocculi of lymph. Loosely attached fibrin lay along the course of the umbilical vein, and upon the under surface of the liver. A probe could be passed from the navel along the whole course of the umbilical vein, which was filled with a grayish-red thrombus, broken down, and having a purulent appearance in places. The cause of the peritonitis was obvious. The thrombus in the umbilical vein, by undergoing disintegration and decay, furnished the conditions of septic poisoning. It is probable that the patulous state of the vein allowed the air to come in contact with the external extremity of the thrombus, thus admitting the minute organisms that are the active agents in putrefaction. The ductus arteriosus usually closes in like manner by the formation of a fibrinous plug; but being in the interior of the body, remote from the air, the thrombus does no harm. Usually, when the cord is ligated, the umbilical vein collapses, and its walls contract; hence the infrequency of septic poisoning from thrombi in this vessel.

The Relationship between Scarlatina and Diphtheria. (Editorial *Brit. Med. Jour.*, April 12).

The evidence of close relationship in origin and pathology of these diseases is rapidly accumulating. In some cases, barring mistakes in diagnosis, it seems that one develops from exposure to the other. In a recent epidemic at Sutton-in-Ashfield they existed side by side. Some of the cases affected had a red eruption, followed by a desquamation of the skin and renal dropsy; others had no rash, but were followed by paralysis. Two cases of what appeared to be scarlatina occurred in an isolated group of cottages; from these contagion was carried to another family, and two children died, one of "scarlatina maligna," one of "diphtheria."

In some cases the first patient in a family attacked had vomiting, sudden accession of fever, and a red rash; while others, a week or two later, had no rash, but white patches in the throat, and, in one or two instances, subsequent paralysis of the pharyngeal muscles. One case, beginning apparently as diphtheria, with white patches in the throat, developed on the third or fourth day the scarlatinal rash, which was followed by anasarca, from which he died. In another family, on the other hand, four members had typical scarlet fever in November; in January one of these, and one who escaped, had typical diphtheria.

At Whitstable and Dunmow, after diphtheria had been prevailing three months, scarlatina appeared. After existing together for a time, diphtheria subsided, while scarlatina became more prevalent and more fatal. After five or six months this diminished, and diphtheria again made its appearance. The diagnosis between the diseases was very often impossible.

The most striking instance mentioned by the writer of the connection between the diseases is the following: A child who had contracted scarlet fever at service came to her home—one of two isolated cottages. She was convalescent, and pains had been taken to disinfect her clothing and her person. Eight days later her sister was taken ill, and died in two days of "malignant sore throat." On the following day three more were attacked with the same disease; one died in two, one in three, and one in ten days. In the last case there was a petechial eruption. It was called "diphtheria." The physician in attendance considered the other cases as belonging to this category. A child in the adjoining cottage was taken, ten days after the return of the girl above mentioned, with a sore throat, developed a well-marked scarlet-fever rash on the sixth day, which was followed by desquamation on chest, arms and legs. Four other children in this family escaped, but a woman who lived some distance away, who came to nurse the children, took diphtheria and died on the fourth day, while sitting in her chair. The conclusion reached is, that though scarlatina generally originates from personal contagion, and though typical diphtheria often has a purely local origin, especially from sewer emanations, both diseases are due to an infection which in all cases attacks the throat, from which it is mainly propagated. In passing from person to person it may be so modified as to cause in one instance characteristic scarlatina, in another typical diphtheria, in a third a mongrel affection which it is difficult to refer to either, or to identify by any other name than that of a bad sore throat, and which is, in fact, a connecting link between the two diseases.

Discussion on Scarlatina. (*Brit. Med. Journal* April 29.) A report of a discussion before the Harveian Society of London, opened by Mr. C. Lawrence, who gave out the following points: 1. *Etiology of Scarlet Fever.* 2. *Surgical Scarlet Fever.* 3. *Puerperal Scarlet Fever.* 4. *Differential Diagnosis.*

1. *Etiology.*—While undoubtedly a specific disease, the special germ had not been demonstrated. The desquamating scales were one of the chief means of transmission, although some German writers dissented from this view. The author referred to the volatility, the durability, and the transmission of the poison by a third party.

2. *Surgical Scarlet Fever* was not a new disease. M. Germain Sée had noticed, in 1858, an eruption closely resembling scarlatina following tracheotomy.

From theses of M. Trélat and E. C. Stirling, the following propositions could be gathered:

(*a*) It may be an immediate sequel of operations.
(*b*) It exhibits certain variations.
(*c*) It more or less retards cicatrization.
(*d*) A wound is necessary for its production.
(*e*) Various other eruptions may follow wounds and injuries.

3. *Puerperal Scarlet Fever* had an incubation of twenty-four to forty-eight hours. Five cases were referred to. In one family the mother escaped, though her four children died of malignant scarlatina during the week of her confinement. Four mothers recovered after severe scarlatina, one infant died, two escaped, and two recovered.

Dr. Broadbent said scarlatina differed much in different families and races, as in France it was regarded, by the profession and the public, as relatively free from danger.

He had often noticed that an inverse relation existed regarding the susceptibility of different families to measles and to scarlatina. He mentioned a case occurring after tracheotomy, which infected the nurse, and she took the disease. In puerperal fever of scarlatinal origin, the appearance of genuine scarlatinal symptoms was a favorable indication.

Dr. Mahomed said the disease was not always propagated by contagion. It was often endemic in houses where sanitary defects existed, and was associated with other manifestations of septic poisoning. It was not infrequently a "drain disease." Although not believing strictly in spontaneous generation of the poison, he still thought a comparatively innocent germ or ferment could take on a more malignant character.

The risk during desquamation was great, and although it could be diminished, it could not be prevented by the use of antiseptic inunctions. Mild cases he had known to communicate the disease eleven weeks after the beginning of the illness.

Surgical scarlet fever he regarded as the same disease as the ordinary type. He had seen ordinary scarlatina transmitted by it. It was usually mild, ran a short course, and albuminuria, if present, came earlier than in the usual form. Scarlatinal poison was highly dangerous to puerperal women. The usual effect was to produce a more or less malignant form of septicemia. It was fortunate when true, recognizable scarlet fever occurred from exposure during the puerperal state.

Regarding the diagnosis of scarlet fever in general, it was often obscure; sometimes impossible. He had seen cases with a normal temperature on the second day. Convulsions occurring early he had found to forebode a fatal termination almost without exception.

Mr. W. B. Owen alluded to the transmission of the disease by a bouquet of flowers sent to a charity school from a house infected with scarlet fever. Six children in the school were simultaneously attacked.

Moore: Discussion on Scarlet Fever. (*London Medical Press*, April 2).

At a recent meeting of the Academy of Medicine in Ireland, this subject was introduced by Dr. J. W. Moore His remarks referred to a recent epidemic. This had followed the general rule of greater prevalence of the disease in autumn and winter. Thus, of 738 cases admitted to the hospital in ten years, 192 came in the first quarter, 136 in the second, 194 in the third, and 216 in the fourth. The greater spread of the disease during the colder months was due to overcrowding and deficient ventilation. In the epidemic under consideration the prevailing type had been scarlatina anginosa. The mortality thus far had been 24 per cent. among males and 23.3 per cent. among females. It was especially high among children under five years, ranging from 32 per cent. to 35 per cent. The chief complications were renal. Uremic convulsions were best treated by pilocarpine. Other complications were: diffuse cellutitis of the neck, followed in one instance by cancrum oris, diphtheria, rheumatism, and in one case phlegmasia alba dolens.

Dr. J. E. Kenny spoke of the connection between scarlatina and erysipelas. In the late epidemic, during the months of August and September, erysipelas became frequent. In the Dublin Workhouse he had seen, during one month, a number of cases of diffuse cellulitis, and the next month scarlatina became epidemic in the house.

Moisture and a moderate temperature were favorable to the development of the poison, yet the climax of an epidemic was usually reached during the winter months.

Dr. C. J. Nixon corroborated the statement regarding the association of scarlatina and erysipelas, and said that typhoid fever was often prevalent in scarlet fever epidemics. There were certainly some grounds for the view of Dr. Harley, that typhoid was abdominal scarlatina.

Dr. Henry Kennedy said that, in the rapidly fatal cases of the disease, the throat was very little affected. He had seen several which had died in from thirty to thirty-six hours. He was cognizant of four cases in which death resulted from hemorrhage from the vessels of the neck giving way.

Surgeon-Major Gore said scarlet fever was extremely rare in India. In five and a half years of service he had seen only four cases, and those among troops. The disease did not exist among the natives; measles, however, was common.

Dr. Moore, in closing the discussion, said the most rapid case of which he was cognizant was thirty hours. One had been referred to in which the incubation was only twenty-four hours. He usually spoke confidently of the safety of those who passed seven days after an exposure without symptoms. An incubation of three to seven days was the rule. He disbelieved in any connection between typhoid and scarlet fever. About the only point in common was that both prevailed in autumn. When the intestinal glands were affected in scarlet fever, it was the solitary and not the agminated glands.

Graves had called attention to the coincidence of scarlet fever and erysipelas in the terrible epidemics of the former disease in Dublin in 1803 and 1832. Patients recovering from smallpox showed a strange susceptibility to the scarlatinal poison, and the converse was also true.

Beatty, Dr. W.: Urticaria Pigmentosa. (*Med. Press and Circular* [from *Proceed. Acad. Med. I.*], April 30).

Two brothers, when aged respectively twelve and eleven years, were affected in the following manner: "An itchy spot manifested itself without any appearance of an eruption; the patient scratched it, when redness and an appearance like little tubes was seen; this subsided, and in a few hours a slightly-raised pimple, pin-headed or a little larger, was observed. This soon flattened, enlarged, and became dull, brown—pigmented, forming a circular spot three-eighths of an inch in diameter. * * * The spot was unaltered by pressure. After a little the centre became white; finally the brown disappeared, leaving white spots of different sizes. The front and back of the chest were the parts chiefly attacked; the flexor aspect of the limbs and face only slightly; the abdomen and genitals were spared. There was not any reason to suspect syphilis. There are only nineteen cases on record. Treatment, *nil*. This report was made when the disease had existed three years in the elder boy, and one year in the younger, the same changes still going on as reported above.

Greeves, Dr. H.: Acute Yellow Atrophy of Liver. (*Med. Press and Circular*, Eng. [from *Proceed. Liverpool Med. Instit.*], April 30).

A boy, aged twenty months, had an attack of jaundice when fifteen months old, from which he recovered. Two months later he had another attack, on the eleventh day of which he came under notice. He was well nourished. Liver, 1½ inches below free border of ribs; not tender at this period. Urine contained bile, but without albumen, leucin, or tyrosin. Absence of vomiting and diarrhea. Temperature normal; fretful at times. The thirteenth day of the attack he became more irritable and drowsy. The seventeenth day, very restless, screaming with pain and flexing the thighs on the abdomen; slight convulsive movements of right arm. Liver had become smaller, and tenderness on pressure marked. Next day, pupils dilated; temperature, 100° F., morning, afternoon, 104° F.; violent convulsive movements of both extremities. Died nineteenth day, temperature 108° F. Autopsy: all organs bile-stained; liver-weight, 12½ ounces. Mic. exam.: liver-cells, greatly disorganized; kidneys, fatty; other organs, normal.

Paul, Mr.: Sarcoma of Kidney (Congenital). (*Med. Press and Circular* [from *Proceed. Liverpool Med. Instit.*], April).

A female child at six months of age was noticed to have an enlargement in the left lumbar region, which finally filled almost the entire abdomen. It proved fatal at the end of a year, the child emaciating rapidly. Autopsy: tumor-weight, six pounds; rest of body, ten pounds. On section, the growth was brain-like in consistence and appearance. Mic. exam. showed embryonic tissues more or less developed.

Chapin, Dr. H. D.: Lead Paralysis (Subacute Myelitis?). (*N. Y. Med. Record*, May 17.)

Two brothers, seven and five years of age, the sons of a painter, were attacked with lead-colic a week after the room in which they remained in the daytime had been painted. Adjoining the room in which they slept was a closet, in which white-lead, turpentine, etc., were kept. Soon after the abdominal symptoms they suffered from pain in the legs, at the end of four weeks they could hardly walk, and shortly after the paralysis became complete. They improved for a short time, and then relapsed. Five months after the first abdominal symptoms they came under observation. The elder boy had the "blue line" on the gum and "wrist drop," and with difficulty could walk. In the other there was absence of the "blue line" and the upper extremities were unaffected. They improved slowly for some weeks, and were then lost sight of until nearly a year subsequently, when they were found worse than before. During the interval they improved, and then had relapsed. At present, with somewhat a trophied lower extremities, they bore a close resemblance to the common spinal paralysis of infancy and early childhood.

A boy, two years and three months of age, who had cellulitis of the thumb and hand, which had been opened freely and a poultice ordered, was seen by another physician who prescribed a solution of acetate of lead (ʒii—Oi.) In a week's time the child was brought back with the lower extremities paralyzed. He got well under treatment.

Seeligmüller quotes Ducheene (fils) as having seen a child of three years who suffered from spinal paralysis from drinking water contaminated with lead.

Dr. W. R. Birdsall cited a case of lead paralysis where the autopsy showed subacute myelitis. He also collected the records of fourteen cases, in six of which subacute myelitis was found.

Dr. Seguin reported a case in which the symptoms of lead paralysis were absolutely identical with those of poliomyelitis. Other facts are stated which go to show that lead paralysis is an affection of the spinal cord.

Boyd: Congenital Cardiac Disease, with Interventricular Communication (?). (*Brit. Med. Jour.*, April 26.)

Dr. Boyd showed a boy, ten years old, to the Academy of Medicine in Ireland with the above diagnosis. The child came near dying in infancy, and had been delicate since birth. A systolic murmur was present, localized between the left nipple and the middle of the sternum, on a line with the nipple, extending to the cartilage of the third rib on the left side. Within this area the murmur was loudest. Both ventricles were hypertrophied. There was possibly some pulmonic stenosis, as the murmur was propagated toward this opening.

MacSwiney: Transitory General Paralysis in a Child. (*Brit. Med. Jour.*, April 26.)

Dr. MacSwiney reported the following case to the Academy of Medicine in Ireland and exhibited the patient, a boy of six years, quite recovered. There was first pertussis for three months, then a severe exposure, followed by tonsillitis, then four molar teeth were cut with considerable pain. Unsteadiness in walking was now noticed, which increased. The arms became affected, and in a short time he was "universally and completely" paralyzed, and lay in bed perfectly helpless. His general health was good; he ate and slept well; there was no muscular atrophy; no change in the voice; the tongue protruded straight; sphincters were normal; no fever; electrical responses normal; plantar reflexes present, but no patellar reflex could be elicited (this he had often found absent in young boys). Power quickly returned, and in three weeks the boy was as well as ever. The symptoms showed the salient features of acute ascending paralysis. The patient's good general condition was against anemia of the antero-lateral columns. Anthelmintics brought away no intestinal worms. The absence of any implication of the pharynx, soft palate, or eyes, of anesthesia, and of loss of foradic contractility, were against paralysis from diphtheria. To reflex paralysis from dentition the initiation of the symptoms was attributed; coincidently with lancing of the gums, recovery began.

Ross: Glioma of the Pons and the Middle Peduncle of the Cerebellum. (*Brit. Med. Jour.*, May 10.)

Dr. Ross reported a case in a boy of eleven, to the Manchester Medical Society. The patient had double optic neuritis; a staggering gait with a tendency to fall, chiefly to the left; deafness in the left ear; paralysis of the left sixth and seventh nerves, and partial anesthesia of the left side of the face. At the autopsy, a glioma about the size of a hen's egg was found in the left middle peduncle of the cerebellum, encroaching on the left lateral half of the pons.

Money: Tubercular Meningitis; Thrombosis of the Middle Cerebral Artery. (*Brit. Med. Jour.*, April 26.)

Dr. Angel Money communicated the following case to the London Clinical Society. The patient was a female child, nine months of age, and was first seen on Dec. 7. Ten days before, after a fit, the left arm and leg were found completely paralyzed. The mind seemed unaffected. The hemiplegia was slowly passing away until Dec. 27, when a series of fits took place, there was unconciousness, Cheyne-Stokes respiration, pulse 96, the temperature rose to 107°, and the child died Jan. 2. The autopsy showed the brain to be soft and pale; an excess of pale fluid in the lateral and fourth ventricles; signs of meningitis not recent chiefly at the base; a large branch of the right middle cerebral artery was thrombosed; tuberculosis in the other organs; a minute vegetation on the smaller flap of the mitral valve.

Dr. Y. Dawson: The Bacillus in Tubercular Meningitis. (*Lancet*, April 12.)

The patient was a child aged twenty-one months. The mother was reported to have died of consumption soon after its birth. After an illness of sixteen days the patient died in convulsions.

The autopsy showed no lesions to the naked eye, except an increase in the cerebro-spinal fluid and congestion of the vessels at the base. Under the microscope the pia mater was found to contain tubercle not yet advanced to caseation, but showing the bacillus in large numbers.

The author states that this has not before been demonstrated in England at so early a stage in the disease.

Crocker, H. R., M.D; Comedones in Children. (*Lancet*, April 19.)

A number of well-marked cases are reported in infants from three to twelve months of age. He believes the disease not uncommon at this age, and still more frequent from three to twelve years. It was oftener seen in boys, where it covered the forehead from the scalp to the eyebrows, which suggested warmth and moisture from the wearing of caps as a cause.

The peculiarities of comedones in children are stated as follows:

1. Their dependence mainly on local causes.
2. Their greater tendency to group, to be closely set, and to involve the hairy scalp.
3. Their yielding readily to treatment. A friction with a weak soft-soap and alcohol liniment, or sulphur lotions preceded by the use of very hot water, is all that is usually required.

3. SURGERY.

Meyer: Concerning Fractures of the Extremities in Children. (*Jahrbuch f. Kinderh.*, B. XXI., H. 3.)

Two cases of this character are reported by the author. One of them was in the person of a new-born male infant, in whom he found, a few hours after birth, a fresh fracture near the middle of the left femur, running transversely, and with the mobility of the fragments clearly distinguishable. The right femur was shorter than normal, with a thickening near its middle, which was referred to a precedent fracture as its cause, the supposition being that it was a mass of callus. A splint was placed around the limb which contained the fractured bone, and callus soon made its appearance. Healing, however, was not without deformity. The labor by which the child was born was in all respects normal. In the second case a male infant was born prematurely, by two or three weeks, in the second breech position. When the shoulders were reached it was found necessary to release the arms. After delivery it was found that both femora were fractured, the right one in the epiphyseal line, the left one somewhat higher up. Union in both bones quickly supervened. The conclusion of the author, after weighing all the evidence, was that the fracture in both cases occurred *in utero*, but exactly from what cause was not ascertained. Simple fractures of this character usually heal very quickly, whether they have occurred before or during labor. This is a fortunate fact, for the treatment cannot be very thorough, on account of the tenderness of the skin of infants, and inability to obtain horizontal extension. Hence it need not be wondered at that there was deformity in the author's cases after healing had occurred.

Valude: Purulent Pleuritis and Pleurotomy in Children. (*Arch. di Patol. Inf.* [from *Rev. mens. des Mal. de l'E.*] March.)

The author offers in this paper the results of his observation and experience at the *hôpital des enfants malades.* He differs, in his conclusions, with others who have written upon the same subject (notably Fouson), and offers the following propositions: 1. Purulent pleuritis does not offer in children as favorable a prognosis as in adults. 2. The method of repeated punctures with the aspirator may result in a cure, but the method of complete evacuation of the pleural cavity is to be preferred. The reasoning of the author is that, if aspiration fails of success, it exposes the patient to the dangers of the permanent retention of a purulent deposit, especially to septicemia; and if it succeeds moderately, but not perfectly, the great drain upon the vital forces may yet demand pleurotomy. If this operation be decided upon, the author favors the method which is advocated by Saint-Germain. This method presupposes a precedent exploratory puncture, and an incision is made which follows its track. (The seat of election is not mentioned by the author, but it is presumably at as low a level as possible, posteriorly, or postero-laterally.) The skin should first be divided, then a director should be carried into the opening which was made by the aspirator needle, and the bistoury being guided upon it, the intercostal soft parts are divided, the opening being sufficiently large to admit of free drainage.

Suitable injections of carbolic acid solution render the prognosis more hopeful. (We regret that the data are insufficient to enable this abstract to be more specific as to directions.)

Goldschmidt: Contribution to the Treatment of Club-Foot by Osteotomy. (*Rev. Mens. des Mal. de l'Enf.* [from *Centralbl. f. Chir.*, No. 17, April], May.)

The author, in his inaugural dissertation, reports a case of extreme deformity which had been treated by extirpation of the astragalus and the os cuboides. The result, three years later, was that the patient could walk very well, without pain, with a very decided hollow in his foot, and some lameness. A synoptical table of reported cases is given, in which the operation of resection was performed, and the following conclusions were deduced: 1. The resection of the os cuboides for the correction of club-foot of long standing, is not to be recommended. 2. The operative treatment of club-foot of the *varus equinus* variety, and pronounced in degree, begins with the excision of the neck of the astragalus. 3. In those cases in which Hueter's operation has not resulted in complete correction of the deformity, the body of the astragalus must be excised. 4. The extirpation of the astragalus gives the best results, both from an esthetic and a functional point of view. 5. In very pronounced cases, in addition to extirpation of the astragalus, it is necessary to effect the extirpation of the os cuboides and the scaphoid. 6. The operation of Davis Colley should be reserved for those cases in which the tibio-tarsal articulation is mobile, and in which there is no supination of the heel, or to those in which there is an osseous anchylosis between the calcaneum and the astragalus.

Manby, A. R., M.R.C.S.: Spontaneous Rupture of Hydrocephalus. (*Medical Times*, April 26.)

The child was a male, had a large spina bifida at birth, and valgus of the right foot. Pressure was made on the tumor by an abdominal bandage, which set up a suppurative inflammation, as a result of which it was converted in three months to a fleshy tumor, pressure on which caused no discomfort. The head now became gradually larger, and steadily increased in size until the child was eight months old, when spontaneous rupture took place. Seven and three-quarter pints of bloody fluid were collected, and much more was lost. The only measurement taken had been from ear to ear, across the crown, which was twenty-seven inches. The child seemed to experience temporary relief from the rupture, but sank and died seventeen hours afterward. A number of similar cases are cited from medical literature.

Paul: Suppurative Ostitis of the Femur.—(*Medical Press,* April 2.)

Mr. Paul showed to the Liverpool Medical Institute the femur of a girl of twelve, in whom first excision of the hip and subsequently amputation had been done at the same joint. After the excision, which was done for hip-disease, she progressed for a time fairly well. Then the whole thigh swelled and profuse suppuration followed, numerous sinuses opening all the way down to the knee. After an exhausting discharge of nine months, amputation was finally allowed, and the case made a speedy recovery.

The specimen was a rare one. The whole of the old shaft had been removed by suppuration and replaced by a delicate new bone. Here and there in the new meshes of the new tissue small sequestra of the old remained. The medullary cavity was not differentiated. The lower epiphysis was in a condition of rarefying ostitis.

Fleming, William J., M.D.: Support for the Head in Disease of the Upper Part of the Spine by Expanding Rubber Bags. (*Glasgow Med. Jour.*, May.)

This device is designed as a substitute for the "jury-mast" to support and fix the head. It consists of two sets of three fusiform India-rubber bags, connected by a flexible but non-elastic material, having, at their free ends, flaps by which they are laced together. In each set the bags communicate with each other, and the lowest is fitted with a stop-cock. A suitable size is selected, and the two sets are rather loosely laced together in front of the neck. When inflated, the lower bag rests on the clavicle of the muscles of the shoulders, while the upper one moulds itself to the jaw, the mastoid process, and the skull to the occiput. No pressure is produced on the trachea. It is claimed for this apparatus that it is capable of taking "a large part of the weight of the head" off the spine; that it is light, can be worn either in the erect or recumbent postures, and when covered by a scarf is scarcely perceptible. The heat produced was complained of by one patient. Several cases are reported in which the author has used the apparatus with success.

White, J. W., M.D.: Recovery in Tetanus. (*Glasgow Med. Jour.*, May.)

The patient was a boy of five years. A fall upon the back was the only injury known. The symptoms developed very gradually. At the first examination a tender spot over the upper dorsal vertebræ was believed to be found. The symptoms were now well marked. Potassium bromide was ordered in ten-grain doses every two hours, which was afterwards given every hour, and five grains chloral added to each dose. These drugs were kept up for six days, the spasms returning whenever the dose was diminished. A blister was now applied over the sensitive spot in the spine. Very decided improvement now occurred, and the case went on to a rapid convalescence, the bromide and chloral being continued. The author seems inclined to attribute a great deal of benefit to the vesication.

Neve, Arthur: Resection of the Tibia. (*Indian Med. Gazette*, April.)

A native boy, ten years old, was admitted to the hospital with an abscess over the upper half of the tibia and acute inflammation of the knee-joint. The symptoms were of three weeks' standing. The tibia was found bare and necrosed, and the whole upper half was removed. Nine months later the condition was as follows: leg shortened 1¼ inches, fibulæ of the same length, while the new tibia was 1½ inches shorter than its fellow. The femur of the affected side was perceptibly lengthened, and its head altered in shape. The ligaments were lengthened and weak, but the joint acted well. The fibula projected one inch up behind the external condyle. The upper part of the tibia was enlarged. The limb measured one inch more than the opposite one. The interesting feature of the case was the rapid growth of the fibula, which in this way became dislocated from the tibia, forced the leg inward, and at one time threatened to perforate the skin. This was avoided by extension.

Aitkin: Empyema as a Sequel of Scarlatina. (R. S. Aitkin, M. Ch. Dub., etc., *Med. Press and Circular*, April 30).

A" street Arab," ten years of age, was brought to the hospital suffering from dyspnea, the patient being in the desquamative stage of scarlatina. Respiration, 60; pulse, 100; temperature, 99° F. Left chest full of pus; orthopnea; heart-beat in right epigastrium. An incision was made below the lower angle of the scapula (unavoidably without antiseptic precautions), thirty ounces of pus flowing out; a drain-tube was inserted and covered with a sponge, wrung out in a warm carbolic-acid solution. Great relief and improvement followed, air entering the lung readily. The pleural cavity was washed out with a 1-40 carbolic-acid solution. On the fiftieth day he was discharged. Left chest 2½ inches smaller than right. Comparative dulness as compared with the right side, respiration fairly good except in the axillary region, where some suspicious gurgling râles were heard (probably the precursor of phthisis). [The account does not state whether the discharge from the chest ceased.] The rarity of empyema as a sequel of scarlatina is shown by comparing it with its occurrence in variola, where it happens once in 1,000 cases.

Foreign Body in the Air-Passages; Broncho-Pneumonia; Removal of the Body by Tracheotomy; Recovery (St. Thomas's Hospital Report in *Lancet*, April 19).

The patient, a girl of three years and nine months, was admitted to the hospital on the eighth day after the reported swallowing of a stone. There were râles over both lungs, more feeble respiratory sounds on the right than left side, no evidence of bronchial obstruction, noisy tracheal sounds; temperature 101.8°, pulse 190, respiration 52 per minute. The dyspnea increased and tracheotomy was done on the third day after admission. The stone was found lying loose in the trachea immediately beneath the incision. It measured five-eighths of an inch in length and two-fifths in breath. It was rounded. The signs of pneumonia were quite well-marked at the time of operation. They continued afterward for ten days, the child making a good recovery.

Gay: Tracheotomy in Membranous and Diphtheritic Croup. (*Boston Med. and Surg. Jour.*, April 8.)

Dr. G. W. Gay reports the performance of twenty tracheotomies in children during the year 1883, with ten deaths. All but one were treated in the City Hospital (Boston). The ages of the patients varied from eleven months to nine years. The majority were from four to five years of age. The duration of the disease at the time of the operation varied from one to eight days; the dyspnea from one to five days. Ether, to the point of anesthesia, was used in less than half the cases, and in the others only a few whiffs. Two died from shock and septicemia a few hours after the operation, the others from bronchitis or blood-poisoning in from two to five days. Every case but one derived more or less benefit from the operation. The operation usually involved the upper rings of the trachea. A tube was used. Venous hemorrhage was quite free in some cases, but never gave trouble from entering the bronchi. After-treatment, milk, ice cream, beef-tea, also enemata. Alcohol not given except in cases of marked exhaustion, but spirits of ammonia aromat. and quinine were given in every case. Iron and chlorate of potash were not given. Dr. G. thinks steam, without any ingredient, almost essential. The tube was left in from six to fifteen days. Dr. G. lays great stress upon having intelligent nurses for day and night duty.

Tebbetts: Tetanus; Recovery. (*Med. Record,* March 29.)
Dr. J. R. Tebbetts reports the case of a child, two months old, who had pushed a leather-headed tack up one nostril and for two days suffered from trismus, and when seen had tetanic convulsions also. The tack was wedged against the inferior turbinated bone. Its removal gave exit to about a drachm of sanious pus and broken-down tissue. The convulsions continued. Pulse, 170; temperature, 106° F. Eight grains of chloral and five grains of quinine were given per rectum. The convulsions were controlled, but not the trismus. The next morning temperature 104° F. Chloral to be given in three-grain doses q. 3 h. and quinine five grains q. 6 h. The latter was continued for six days, when the temperature became normal; but slight trismus remained.

Ward, Dr. E. B.: Amputation of Arm in a Child Eight Months Old. (*Med. Record,* April 5.)
A child, aged 8 months, had its elbow-joint shattered by a discharge from a shot-gun. Amputation was performed twenty-four hours after injury. Recovery was rapid.

Mr. Davies-Colley: Congenital Tumor of the Back. (*Lancet,* April 19.)
The tumor was very small at birth, and grew steadily until, at the time of its removal, after sixteen years, it measured five by four inches. It was slightly pedun-

culated. The microscope showed it to be a fibrosarcoma which probably had its origin in a polycystic tumor. No cartilage or bone was found on various sections. No disposition to recurrence was shown after four months.

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Leçons Cliniques sur les Maladies des Enfants. Par le DR. ARCHAMBAULT, Médecin de l'Hôpital des Enfants malades, Chevalier de la Légion d'Honneur. pp. 153.

It could scarcely be expected that we would very critically examine this little work when we state that it contains but a few of the lectures delivered by the author, whose intention it was to complete them before offering them to the public. These clinical lectures have been divided into ten parts, of which five are devoted to the subject of the nursing, care of infants, and weaning. In the matter of nursing of infants, and so-called artificial feeding, so much has of late appeared, and is appearing, in the journals, that we can dismiss the matter with but little comment. The gradually increasing weight and thriving appearance of an infant is an index to the value of its food and care. There is no sure guide, nor formula, which can be adopted in each case. In this country habits of life are so different from those in France, that the relative value of goat's milk and mare's milk is of little interest to us. We know that claret and water is by no means a stranger to an infant's stomach in that country, yet we would scarcely recommend it as an article of diet. Hundreds of infants are saved to-day that would have perished ten, five, even two years ago, all because common sense is being rapidly diffused amongst the masses by the many medical articles published for the people, devoid of technicalities.

We are informed that the new-born babe loses about 65 grams (2 oz.) of its weight during the first day after birth, about half that amount the second day; after this it remains stationary for the next three days, and then gradually regains weight until, from the seventh to the tenth day, it weighs about what it did at birth. The statements of

Bouchard are given as accurate regarding the amount of nourishment taken by an infant, based on its weight before and after nursing, averaging eight or ten meals a day:

First day, ...	15 grams
Second day, . . .	150 grams
Third day, . . .	450 grams
Fourth day, . . .	500 grams
After first month, . .	650 grams
After third month, . .	750 grams
After fourth month, . .	850 grams
From sixth to ninth month,	950 grams — about 30 oz.

The gain in weight of a well-nourished child is about twenty-five to thirty grams a day, or from 750 to 900 grams a month. If the infant only gains 100 grams in ten days, it is a sign that it does not receive sufficient nourishment; and if its gain be less than this, a complete change in the diet should be instituted.

The subject of diphtheritic paralysis is introduced in lecture sixth by a description of a case. Our author follows Trousseau in the statement that the symptoms are those of ataxia, not of a veritable paralysis; the hemiplegic form being very rare, though one side may preponderate in severe symptoms, rarer still is its localization in an arm or leg. The symptoms nearly always begin in the pharynx, though exceptions are reported. The author states his opinion that the sensory disturbances, although precursors of the muscular weakness, disappear before the latter, differing with Ducheune (de Boulogn) and others in this. Death may be due to asphyxia, also to paralysis of the intercostal muscles and diaphragm. Sudden heart death from syncope is also a result. As regards the lesion present in the nervous system, the author gives the results of the investigations of Déjerine. The lesions are identical with those of myelitis. Their seat is in the anterior portion of the gray matter of the cord, involving the parenchyma and connective tissue especially, extending thence to the nerve-cells and tubules, but only directly involving probably one out of ten, and then not destroying them. In this way the rapid recovery which we notice is accounted for. He thinks it probable that the posterior horns are equally influenced, in order to explain many of the clinical features. We cannot but think that possibly the initial lesion is a peripheral one, that the centres are involved secondarily by progressive inflammatory processes; that it is, in fact, a form of paralysis from peripheral irritation. Our author is forced to agree with Vulpian—"Nos connaissances sur la pathogénie de la paralysje diphthéritique sont très bornées et il a là tout un champs d'études à explorer."

The subject of tracheotomy, the indications for which are to be based on the difficulty of respiration through occlusion of the larynx, judged not by the symptoms of asphyxia alone, but by the stridulous inspirations which may precede the other signs—at this time will the child present that condition best calculated to permit a favorable result. Nevertheless, our author considers it never too late to operate, as he has already furnished statistics of seventeen recoveries out of fifty-three operations, and all *in extremis.* The accompanying table gives the results of the tracheotomies in the Children's Hospital in Paris, with the age of the patient:

Age.	Operations.	Cures.
From 1 to 3 years, ...	976	104
From 3 to 4 years, ...	820	175
From 4 to 5 years, ...	736	174
From 5 to 6 years, ...	497	148
Above 6 years, ...	547	198

The remaining two lectures are devoted to the study of whooping-cough. This subject should certainly demand more attention than it seems to do with us as regards treatment. It is one of the most contagious of children's diseases, and yet no precautions are ever taken to prevent its spread. The treatment most relied upon seems to be fresh air, and in consequence the forced association with other children not affected. In 1880 the number of deaths from this disease in the United States was 11,102, of which 748 were in New York and 600 in Texas; 56 in Maine and 654 in Georgia; which certainly shows that the *let-alone* treatment in the fresh air is not all that is required. The description of the disease, its clinical features as detailed by the author, are excellent; the history of its complications thorough and well worthy of study. His main reliance in treatment is belladonna, in the neutral sulphate of atrophia, Dover powder in small doses at night if the cough is troublesome. Bromide of potassium is recommended at night instead of the latter at times. No mention is made of the bromide of ammonium, of chloral, of croton chloral (so valuable), of quinine, nor of salicylic acid. *Inhalations* are indirectly alluded to by recommending a change to the sea or to pure air. At present in this country the value of atomization and inhalation is uncontested, using carbolic acid, lysterine, quinine, or sedatives. Certainly if there be a germ or *bacillus pertussis*, it can be directly attacked, its action limited, and its propagation prevented. The space is too short to discuss these matters further, and we can but regret the death of the gifted author.

J. M. K.

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THE

ARCHIVES OF PEDIATRICS

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Original Communications.

THE HYGIENIC MANAGEMENT OF THE SUMMER DIARRHEA OF INFANTS.*

BY J. LEWIS SMITH, M.D.

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Preventive Measures.—Efficient preventive measures consist in the removal of infants, so far as practicable, from the operation of the causes which produce the diarrhea. Weaning just before or in the hot weather should, if possible, be avoided. Cases repeatedly occur in which mothers, in consequence of suspected pregnancy, or for other reasons, suddenly wean their babies during the heated term, and the result is nearly always a severe attack of the summer diarrhea. If it be necessary to employ artificial feeding for infants under the age of twelve months, that food should obviously be used which most closely resembles human milk in digestibility and nutritive properties. The kind of food which is proper, we will consider under the head of curative measures. Whatever is employed should be as fresh as possible, since much harm is done by the use of milk or other food in which fermentative changes have occurred, and which occur quickly in hot weather.

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* From a paper on the Summer Diarrhea of Infants, read before the New York County Medical Association, June 16th.

It is also important that the infant receive its food in proper quantity and at proper intervals; for if the mother or nurse, in her anxiety to have it thrive, feed it too often or in too large quantity, the surplus food which it cannot digest, if not vomited, undergoes fermentation, and consequently becomes irritating to the gastro-intestinal surface.

Dr. Chadbourne, of this city, and myself, made some very interesting observations in order to determine how much milk well-nourished infants require daily. We selected such as received an abundance of breast-milk, and weighed them before and after each nursing, so as to determine how much each infant took during the twenty-four hours. The avoirdupois ounce contains 437.5 grains, and we ascertained by careful weight and measurement —employing the metric system for its greater accuracy— that one fluidounce of human milk, with a specific gravity of 1.031, weighed 451.9 grains. With these data, it was easy to determine the quantity of milk in fluidounces, from its weight. Our first observations related to twelve infants, under the age of five weeks, eight of whom nursed twelve times, and the remaining four, eight, nine, nine, and eleven times respectively, in twenty-four hours. The quantity of milk received by them in the twenty-four hours varied considerably in different cases; but the average was 12.41 fluidounces. Therefore, if a baby in the first five weeks take the breast every two hours, it receives only a little more than one fluidounce at each nursing. The next observations were made upon fifteen infants, between the ages of five weeks and ten months. Eight of the fifteen were under the age of six months, and the remaining seven were between the ages of six and ten months. The weighing showed that the younger took nearly the same quantity each day, in the average, as the older infants in this group. The average quantity received by each was twenty-four and six-tenths fluidounces. Hence, if the nursings were eight in the twenty-four hours, three ounces were taken at each nursing; if the nursings were twelve, the quantity each time was two ounces.

Professor Biedert, of Germany, has also made careful observations in order to determine the amount of nutriment received by infants. The results of his weight-studies, as he designates them, were published in the *Jahrbuch für Kinderheilhunde,* B. XIX., H. 3. His weighing showed that infants, during their first month, if fed on cow's milk, require from 160 to 200 grams of milk daily, and from this age till the third month, 300 grams. These quantities, in fluid measure, are 5.44 to 6.83 ounces, the quantity required in the first month; and 10.22 ounces, the quantity required daily in the second month. Therefore, both my weights and Biedert's show that infants under the age of two months assimilate a smaller quantity of milk than is usually supposed. For infants older than two months, he estimates the quantity of milk required by their weight. He believes that the greater the weight, the greater is the amount of food which the infant needs. The method pursued by Dr. Chadbourne and myself is more simple, and it seems to indicate with sufficient accuracy the amount of food required. Some infants, like adults, need more food than others, so that there can be no exact schedule of the quantity which they should take at each feeding. But, while infants in the first and second months do not require more than from one to one and a half fluidounces at each feeding, whether of breast-milk, or of cow's milk prepared so as to resemble as closely as possible human milk, as they grow older and their stomachs enlarge, they take food in larger quantities, and therefore require less frequent feeding. Under the age of two months the stomach is so small that it cannot receive much more than one or one and a half fluidounces without distension, and this, as we have seen, is the quantity which is usually taken at each nursing. At the age of six months the infant can probably take and digest, without discomfort, three ounces, and in the last half of the first year, even four ounces.

Infants nourished at the breast may be allowed to nurse every two hours in the daytime, whatever the age, after the second month; but less frequently at night, for frequent nursing promotes the secretion of milk, and the milk is of better quality than when it is long retained in the breast. If by the fifth or sixth month mothers or wet-nurses find, as is frequently the case, that they do not have sufficient milk, other food should be given in addition, perhaps after every second nursing, or every fourth hour. The kind of food which it is best to employ, to supplement the nursing, will be mentioned under the head of curative measures. By knowledge on the part of the mother and nurse of the dietetic needs of the infant, and by consequent judicious alimentation, and by measures also to procure the utmost purity of the air, there can be no doubt that the summer diarrhea may to a great extent be prevented.

Curative Treatment.—The indications for treatment are: 1st. To provide the best possible food. 2d. To procure pure air. 3d. To aid the digestive function of the infant. 4th. To employ such medicinal agents as can be safely given to check the diarrhea. The infant with this disease is thirsty, and is therefore prone to take more nutriment than it requires for its sustenance. If nursing, it craves the breast; or, if weaned, craves the bottle at short intervals to relieve the thirst. No more nutriment should be allowed than is required for nutrition, for the reason stated above, and the thirst may best be relieved by a little cold water, gum-water, or barley-water, to which a few drops of brandy or whisky have been added.

Since one of the two important factors in producing the summer diarrhea is the use of improper food, it is obviously very important, for the successful treatment of this disease, that the food should be of the right kind, properly prepared, and given in proper quantities. I need not repeat that, for infants under the age of one year, no food is so suitable as breast-milk; and one affected with the summer diarrhea and remaining in the city should, if possible, at least if under the age of ten months, be provided with breast-milk. It can be more satisfactorily treated, and the chances of its recovery are much greater if it be nourished with human milk than by any other kind of diet. If, however, the mother's milk fail, or become unsuitable from ill-health or pregnancy, and on account of family circumstances a wet-nurse cannot be procured, the important and difficult duty devolves upon the physician of deciding how the infant should be fed.

One of the most important conferences in pediatrics ever held convened at Salzburg in 1881, for the purpose of considering the diet of infants. Among those who participated in the discussion were men known throughout the world as authorities in children's diseases, such as Demme, Biedert, Gerhardt, Henoch, Steffen, Thomas, and Soltmann. None of the physicians present dissented from the following proposition of the chairman, that "all the advances made in physiology in respect to the digestive organs of children, only go to prove that the mother's milk is the only true material which is quantitatively and qualitatively suited to the development of the child, which preserves the physiological functions of the organs of digestion and, under favorable circumstances of growth, unfolds the whole organism in its completeness." All agreed that when the breast-milk fails, animal milk is the best substitute. Henoch expresses the same opinion in his well-known treatise on Diseases of Children as follows: "Cow's milk is the best substitute for mother's milk during the entire period of infancy. I consider the administration of other substances advisable only when good cow's milk cannot be obtained, or when it gives rise to constant vomiting and diarrhea."

The many infants' foods contained in the shops were considered by the Conference, and, in the words of the chairman, "Now and evermore it is unanimously agreed that these preparations can in no way be substituted for mother's milk; and, as exclusive food during the first year, are to be entirely and completely rejected." But, unfortunately, we soon learn by experience that animal milk, although it is the best of all substitutes for human milk, is, especially as dispensed in the cities, faulty. It is digested with difficulty by young infants, and is apt to cause in them diarrhea and intestinal catarrh. Therefore, in the hot months, its use is very prone to act as one of the dietetic causes of the summer diarrhea, in infants exclusively fed upon it, unless it be specially prepared so as to more closely resemble human milk. The frequent unsatisfactory results of its use have led to the preparation of the many proprietary substitutes for human milk which the shops contain, and which have been so summarily discarded by the German Conference.

Of the many foods intended for the use of infants, all, except such as consist largely or wholly of cow's milk, differ widely from human milk in their composition; and although some of them, as the Liebig preparations, in which starch is converted into glucose by the action of the diastase of malt, may aid nutrition and be useful as adjuncts to milk, physicians of experience and close observation will, I think, agree with the German Conference, that when breast-milk fails, or is insufficient, our main reliance for the successful nutrition of the infant must be on animal milk. Nestle's food, which consists of wheat-flour, the yolk of egg, condensed milk, and sugar, and which has been so largely used in this country and in Europe, is probably beneficial mainly from the large amount of Swiss condensed milk which it contains. Although the preference is to be given to animal milk over any other kind of food as a substitute for human milk, yet even when obtained fresh and from the best dairies, and properly diluted, it is very apt to disagree with infants under the age of one year, producing indigestion and diarrhea. The close resemblance in chemical character of cow's, ass's, and goat's milk with human milk, would lead us to expect that either one would be a good substitute for the latter. The fact that the milk of these animals is apt to cause indigestion and intestinal catarrh, especially in the hot months when the digestive function of the infant is enfeebled from the heat, must be due to the quality rather than quantity of its constituents. The difference in quality of the casein of human and animal milk is well known, since that of human milk coagulates in the stomach in flakes, and that of animal milk in firm and large masses. The German Conference saw at once the importance of the problem which confronted them, *i. e.*, how to modify cow's milk so that it bears the closest possible resemblance to human milk. They even discussed the difference of the milk of different breeds of cows, and the proper feeding and care of cows; but the most important suggestion made, and one which has already produced good results in this country and in Europe, and promises to be instrumental in saving the lives of many infants, who by the old method of feeding would inevitably perish, was made by Prof. Pfeiffer, of Wiesbaden. I allude to the peptonizing of milk. The pancreatic secretion digests milk that is rendered alkaline, at a temperature between 100° and 150° F. Milk thus treated becomes, in from twenty minutes to one hour, thinner, resembling human milk in appearance, and if the peptonizing be continued beyond a certain point and is more complete, its taste is decidedly bitter. The process should be watched and the peptonizing suspended as soon as the bitterness becomes appreciable, for although more advanced peptonizing so changes the milk that it is more easily digested by the infant than when the peptonizing is partial, yet the bitterness which is imparted to it renders it very disagreeable as a dietetic preparation. Milk thus prepared closely resembles human milk in appearance, and its casein is so digested that it is either not precipitated by acids, or is precipitated, like that of human milk, in flakes. By this process a digested or an easily digested casein is produced, instead of the casein of ordinary cow's milk, which produces large and firm masses in the stomach, masses which the digestive ferments penetrate with such difficulty that they cause indigestion, and appear in the stools as coagula of greater or less size.

Pfeiffer pointed out that when peptonized milk is employed "the feces showed absolutely no trace of the white cheesiness." Milk thus prepared quickly spoils, and it is necessary to peptonize it in small quantities and often during the twenty-four hours.

In New York city, during the last year, peptonized milk has been employed largely as recommended by Pfeiffer, and with such results as to encourage its further use. It is now used in the New York Foundling Asylum and the New York Infant Asylum. Five grains of extractum pancreatis (Fairchild & Co.'s), and ten grains of sodium bicarbonate, are added to one gill of warm water. This is mixed with one pint of warm milk, and the mixture, in some convenient vessel, is placed in water kept at a temperature of 100° F. for one hour, or less time if it begin to be bitter, when it is placed upon ice to prevent further digestion. With some specimens of milk, especially at a temperature of 115° or 120° F., a half hour, or even less, is sufficient. This artificial digestion is arrested either by boiling the peptonized milk, which destroys the ferment, or by reducing its temperature to near the freezing-point, which renders it latent and inactive, but does not destroy it.

I need not add that placing the peptonized milk on ice is preferable to boiling it, since we wish the ferment to continue to act in the stomach of the infant. In the present state of our knowledge of infant feeding, therefore, we can recommend no better substitute for human milk than peptonized cow's milk.

Milk from healthy, properly-fed cows may be prepared without peptonizing so as to agree with many infants, except in the warmest weather, but is obviously less easily digested than peptonized milk. It should be diluted as follows, with water boiled so as to free it from germs: In the first week after birth, one-fourth milk, with the addition of a little sugar. The milk should be gradually increased so that it is one-third by the end of the fourth week; one-half by the end of the third month; and two-thirds to three-fourths by the end of the sixth month. After the sixth month it is still proper to add one-fourth water, but pure milk may be given. Water increases the urination. Before peptonizing was resorted to, which, as we have seen, digests the casein to a great extent, and changes that which is not digested so that it coagulates in flakes in the stomach like breast-milk, it was customary to use a thin gruel of barley or oatmeal in place of the water used for diluting milk; one heaped teaspoonful of barley-flour to ten tablespoonfuls of water make a gruel of proper consistence. A little farinaceous substance added to the milk, by mechanically separating the particles of casein, tend to prevent their coagulation in large and firm masses. This was the theory which explained the beneficial action of the admixture. If for any reason peptonized milk be not employed, milk prepared in the way I have mentioned, by admixture with a farinaceous substance, is probably the next best substitute for human milk.

It is very important to determine when and how farinaceous food shall be given in this disease. It is well known that infants, under the age of three months, digest starch with difficulty and only in small quantities, since the salivary and pancreatic glands, which secrete the ferments which digest starch, are almost rudimentary at that age. But the artificial digestion of starch is easily accomplished. Among the last labors of the renowned chemist, Baron Liebig, was the preparation of a food for infants, in which the starch is digested, transformed into grape-sugar, and thus infants at any age, who are fed with it, are relieved of the burden of digesting it. The Baron led the way, which has been so successfully followed since, in the artificial digestion of foods. A considerable part of the starch in wheat-flour is converted into grape-sugar by the prolonged action of heat. I frequently recommend that from three to five pounds of wheat-flour be packed dry in a firm muslin bag, so as to form a ball, placed in water sufficient to cover it constantly, and kept over the fire three or four days. During the nights the fire may go out for a few hours. At the expiration of this time, the external part, which is wet, being peeled off, the remainder resembles a lump of yellowish chalk. The flour grated from it gives a decided reaction of sugar by Fehling's test. Starch is also quickly transformed into glucose by the action of the diastase of malt, which indeed Liebig employed. If to a gruel of barley-flour, oatmeal, or other farinaceous substance, when hot, a little of a good preparation of extract of malt, as that prepared by Trommer & Co., at Fremont, Ohio, which acts promptly, or by Reed & Carnick, be added, it becomes thinner from the conversion of the starch into sugar. Farinaceous substances thus prepared may be used with peptonized or other milk.

Of the foods contained in the shops which have been most employed, and which have apparently been useful in certain cases, I may mention those which have been prepared according to Liebig's formula, of which there are several, and Nestle's lacteous farina. In the use of those foods which contain no milk, as Ridge's food, imperial granum, etc., it is recommended that milk be added; while for such as contain condensed milk, as Nestle's, and the Anglo-Swiss milk-food, only water should be employed. The Anglo-Swiss food contains about sixty per cent. condensed milk and about twenty per cent. each of oatmeal and Russian wheat-flour. It gives an acid reaction, unlike Nestle's, which is alkaline. When Biedert's cream conserve was announced, great expectations were awakened from the fact that the inventor is an authority in pediatrics, but unfortunately they have not been realized in this country. Much of Biedert's conserve when it reaches us is spoiled, and the directions for its use are too complicated for ordinary families, since a different mixture is required for each month. I have prescribed this food, but with Henoch, "could not convince myself that it is more efficacious than cow's milk."

Condensed milk is largely used in the feeding of infants. The milk is condensed under vacuum to one-third to one-fifth its volume, heated to 100° C. (212° F.), to kill any fungus which it contains; and thirty-eight to forty per cent. of cane-sugar is added to preserve it in cans. In the first month one part of the milk should be added to sixteen of water, and the proportion of water should be gradually reduced as the infant grows older. The large amount of sugar which condensed milk preserved in cans contains, renders it unsuitable in the dietetic role of the summer diarrhea of infants. The sugar is apt to produce acid fermentation, and diarrhea in hot weather. Borden's condensed milk, fresh and dispensed from the wagons, contains, I am informed by the manager, no cane-sugar or other foreign substance, and on this account is to be preferred. It is cow's milk of good quality, from which seventy-five to seventy-nine per cent. of the water has been removed under vacuum. The sole advantage which it possesses, and it is an important one, is that it resists fermentation longer than the ordinary milk.

To select the best food for the infant from this considerable number of dietetic preparations is one of the most important duties of the physician. If called to an infant unfortunately deprived of wholesome breast-milk, and suffering in consequence from indigestion and diarrhea, what diet shall we recommend? My recommendation would be as follows: Use cow's milk of the best possible quality, and peptonized in the manner stated above, and peptonized in small quantity at a time, as one pint, or better, half a pint. This may be the sole food till the age of five or six months. Farinaceous food can be allowed in addition even to young infants, if a considerable part of its starch be converted into glucose. My preference as regards farinaceous food is for the wheat-flour prepared by long boiling. For infants under the age of six months, one tablespoonful of the flour thus prepared should be mixed with twelve tablespoonfuls of water, and heated. To one teacupful of this, one-half teaspoonful of the extract of malt (as Trommer's extract prepared for children) should be added. The diastase of the malt quickly converts a considerable part of the starch that has not already been converted by the boiling into glucose. The glucose renders it sweet and palatable, and a little salt should be added to it. It does not seem to mix well with peptonized milk, and can be given separately through a nursing-bottle. I usually make it the vehicle for the brandy or whisky, which infants with diarrhea usually require. It is also a good vehicle for albumen. If the digestion of the infant be feeble, as in atrophic cases, and it seems to require more nutriment, the white of the fresh egg mixed with the food aids in supplying the deficiency, and it is easily digested even by atrophic infants.

Beef-, mutton-, or chicken-tea should not be employed, at least as it is ordinarily made, since it is too laxative. Occasionally for the older infants the expressed juice of beef, raw scraped beef, or beef-tea prepared by adding half a pound of lean beef finely minced to one pint of cold water, allow it to stand cold half an hour, and then warm it to a temperature not exceeding 110° for another half hour. By this process the albumen is preserved. Salt should be added to it, and I am in the habit of adding to it also about seven drops of dilute muriatic acid, to facilitate its digestion. It is chiefly for infants over the age of ten months that the meat-juices are proper.

But since one of the two important factors in producing the summer diarrhea of infants is foul air, it is obvious that measures should be employed to render the atmosphere in which the infant lives as free as possible from noxious effluvia. Cleanliness of the person, of the bedding, and of the house in which the patient resides, the prompt removal of all refuse animal or vegetable matter, whether within or around the premises, and allowing the infant to remain a considerable part of the day in shaded localities where the air is pure, as in the parks or suburbs of the city, are important measures. In New York, great benefit has resulted from the floating hospital, which every second day during the heated term carries a thousand sick children from the stifling air of the tenement houses down the bay and out to the fresh air of the ocean. But it is difficult to obtain an atmosphere that is entirely pure in a large city with its many sources of insalubrity, and all physicians of experience agree in the propriety of sending infants, affected with the summer diarrhea, to localities in the country which are free from malaria and sparsely inhabited, in order that they may obtain the benefits of a purer air. Many are the instances each summer in New York City of infants removed to the country with intestinal inflammation, with features haggard and shrunken, with limbs shrivelled, and skin lying in folds, to weak to raise or at least hold their heads from the pillow, vomiting nearly all the nutriment taken, with stools frequent and thin, resulting in great part from molecular disintegration of the tissues—presenting, indeed, an appearance seldom observed in any other disease except in the last stages of phthisis—and returning in late autumn with the cheerfulness, vigor, and rotundity of health. The localities usually preferred by the physicians of this city are the elevated portions of New Jersey and Eastern Pennsylvania, the Highlands of the Hudson, the central and northern parts of New York State, and northern New England. Taken to a salubrious locality and properly fed, the infant soon begins to improve, if the disease be still recent, unless it be exceptionally severe. If it be a protracted case improvement may not be immediate, but it will usually appear in the course of a week.

An infant weakened and wasted by the summer diarrhea, removed to a cool locality in the country, should be warmly dressed, and kept indoors when the heavy night dew is falling. Patients sometimes become worse from injudicious exposure of this kind, the intestinal catarrh from which they are suffering being aggravated by taking cold, and perhaps rendered dysenteric.

Sometimes parents, not noticing the immediate improvement which they had been led to expect, return to the city without giving the country a fair trial, and the life of the infant is then, as a rule, sacrificed. Returned to the foul air of the city while the weather is still warm, it sinks rapidly from an aggravation of the malady. Occasionally the change from one rural locality to another, like the change from one wet-nurse to another, has a salutary effect. The infant, although it has recovered, should not be brought back while the weather is still warm. One attack of the disease does not diminish, but increases, the liability to a second seizure.

INFANT DIGESTION.

BY HORATIO R. BIGELOW, M.D., WASHINGTON, D. C.

The question of infant growth is one of assimilation. Assimilation of food will depend upon the integrity of the digestive function. The digestive system of the new-born is not formulated at once, but develops in logical ratio with the expansion of other parts of the body. Its measure is the requirement necessitated by the elaboration of tissue. Tissue growth is a slow process, demanding especial nourishment, and varied at each advance in age. The necessities of the child, both chemical and physiological, are not those of the adult, because each is adjusted with great exactness to the immediate environment. The excess of non-nitrogenous matter, which is an essential to adult life, is pernicious to the well-being of the infant. Muscles, when at work, consume principally hydrocarbonaceous aliments, and not albuminoid substances. In the infant there is no muscular exertion, and hence it draws more largely for its development upon the nitrogenous substances than upon the hydrocarbons. At birth the alimentary tract is short, the cæcum being very small, and the masticatory organs are absent. Bidder says that the ptyaline appears only with the cutting of the first tooth. Reasoning from analogy, it is not improbable that the pancreatic and intestinal ferments are also inoperative until about the eighth month. Nature is not a spendthrift, and she would not call into useless action any function not demanded by the necessities of her own handiwork. With the eruption of the teeth a new era begins. Mastication presupposes increased development. Increase of development calls for increase of nourishment, and increase with variety in nourishments sets up new digestive processes, in which the ptyaline and the other ferments play an important part.

The alimentary tract of the infant is exceedingly susceptible, so that nursing women have to be very careful in their diet. Now if this tract is so impressionable as to feel any departure from a standard diet in the mother, how much more seriously will it suffer in the administration directly of unwholesome cow's milk—not unwholesome, perhaps, in the light of general use, but unwholesome for the limited infantile digestion. It may have an *acid* reaction, or it may have come from a cow in *heat*, or it may be tainted with certain vegetable substances obnoxious to the child. The natural food of the baby is its mother's milk.

An intelligent study of human milk will lead up to a more just comprehension of the demands of infant digestion, and to a more perfect knowledge of a physician's duty in prescribing for such cases as are, unfortunately, deprived of the mother's breast. It would be a valueless encumbering of space, and an expenditure of time without profit, to cite one-half the analyses that are matters of record. It best subserves the present purpose to view the main constituents of human milk in their relation to certain physiological principles. It is to be noticed first, that woman's milk has an *alkaline* reaction, which persists for an indefinite period, and a specific gravity of about 1.0317. It contains water largely in excess (89.20 in 100 parts), milk-sugar, nitrogenous matter, fat, and salines. The albuminoids will vary in different women so largely that we cannot affirm that any analysis is infallible. A fair average percentage would probably be about 4.84. The milk-sugar (6.997) is much greater than in cow's milk

(4.92). These figures are only approximately correct. No two samples yield the same results. This variability in the composition of woman's milk, if not pathological, is a wise dispensation of nature to provide for the exigencies of each month of advancing age. Thus the function of the milk-sugar as a heat-producer is kept constantly in mind, while the absolute rate of nutrition may vary within wide limits, because the bodily heat must be preserved at all hazard. In fat, woman's milk exceeds that of the cow, but falls far below it in albuminoids. The ash, or mineral constituent of milk, is chiefly concerned in metamorphosis. The basic phosphate of soda is invariably found in the blood, while the acid phosphate of potash is the chief constituent of the juice of the flesh. Phosphate of lime is intimately incorporated with the nitrogenous constituent principles. It is very generally admitted that the carbohydrates lead on to fat-production, through the co-operation of the nitrogenous and saline elements. Nitrogenous elements themselves, when in excess, may also serve as a source of fat. Nitrogenous matters do not, probably, undergo complete oxidation within the body; a portion of them is eliminated as urea. Fatty compounds are of higher value as force-producers, because they contain a quantity of hydrogen as well as of carbon free for oxidation. Pavy says that the value of nitrogenous compounds as force-producers depends upon the amount of unoxidized oxidizable elementary matter they contain. In human milk the percentage of nitrogenous matter to carbohydrates is about 1.45. About one-fourth part of its casein is coagulable by acid. The *alkaline reaction* is *highly valuable,* since it serves to convert the *casein* into *soluble albuminoids* and soluble carbohydrates, which are great heat-producers. Writing upon this subject, Küss says: "It is generally admitted (Moleschott, Voit) that an adult consumes 320 grams of carbon and 21 grams of nitrogen, or, in other words, 130 grams of albuminoid elements, and 488 grams of hydrocarbons and fats (fats 84, hydrocarbons 404); it follows that, in this case, the normal proportion in a mixed diet, of nitrogenous to non-nitrogenous aliments, is 1 to 3.7, while in milk, as well as in the egg, the proportion is 1 to 3, or even 1 to 2; in other words, the quantity of albuminates (nitrogen) is much larger, and of hydrocarbons (carbon) much smaller. This fact may be easily explained by referring to the part played by the hydrocarbons in regard to the production of force, muscular force especially. The adult draws his forces from the combustion of non-nitrogenous substances, the albuminates scarcely serving for this purpose. On the other hand, when the organism is in course of development, the nitrogenous substances are indispensable to the growth of the different tissues. It is therefore easy to see how mistaken is the common practice of condemning children to a diet containing a large quantity of starch and scarcely any nitrogen."

Woman's milk contains no *starch.* It may be conceded that, in the adult, the ptyaline may continue its action in the stomach; that particles of unconverted starch may be transformed by the pancreatic and intestinal juices. In the infant this rule cannot apply. The baby does not secrete ptyaline until the sixth or eighth month, *neither do the other juices, of pancreas and intestine, have any transforming power whatever before that period.* It is sheer ignorance to assert that small particles of starch can do no harm since they undergo transformation in the intestine, when the truth is that they not only act as irritants, but pass out of the bowels unchanged. The attenuant of woman's milk is an important factor, of which we have little absolute knowledge. It is chiefly in consideration of this point, that *cow's milk cannot ever be safely substituted for that of the mother.* Before it can satisfactorily approximate to this great food of nature, it must be radically transformed by some chemical process, which science has not yet developed. The addition of water to cow's milk will reduce the percentage of albuminoids into harmonious relationship with human milk, but it does not suffice to change the characteristics of the clot. To use starch as an attenuant is, of course, radically wrong.

In view of these facts, it becomes a matter of the utmost interest to establish some definite principles of treatment, in cases where the mother is unable for any reason to nourish her child properly and sufficiently. There is no known process, chemical or mechanical, by which cow's milk alone can subserve this purpose. Up to six months of age, at least, the baby needs just those equivalents found within the mother's breasts—nothing more and nothing less. The compound must be *alkaline* in reaction; it must contain no *cane-sugar* (because cane-sugar must be first converted into grape-sugar before it can be assimilated; cane-sugar is frequently subjected to a kind of acetous fermentation, producing excess of acids in the infant stomach, so that bodily heat will diminish and disorders of respiration and circulation will follow), and no *starch*. It must be rich in heat-producers, although, as I have said before, the amount of albuminoids may vary greatly. Position has something to do with digestion. In some bad cases it will be found that, if the infant be placed in the usual position of a nursing child in its mother's arms, that it will assimilate its food, when artificially fed, much more readily. In the nursing child, a by no means inconsiderable amount of heat is derived from the mother's body. An artificially-fed infant is deprived of this, so that there should be some compensatory action in its food. There have been many attempts made to overcome this difficulty, and our journals have been full of discussions upon the matter. It may be said that no artificially-prepared food that does not meet all these requirements will be of permanent value in infantile therapeutics. What is needed is something rich in carbohydrates, with a proper admixture of albuminoids, salts, and moisture, free from starch and sugar, and alkaline in reaction.

In common with many others, I have often been puzzled as to the best way of meeting the emergency. I beg leave to append a few cases from my note-book, as bearing upon this matter:

Case I.—K. S., colored, five months old, apparently dying of marasmus; vomits frequently; diarrhea, with inability to retain nourishment. Was nursed by mother until two months old; then was fed by bottle on diluted cow's milk. Ordered appropriate remedies, with the formula of infant food as advised by Meigs, in very small quantities. On second day the child was no better. Gave small doses of brandy, burned, with sugar; spice poultice to abdomen. Child continues to fail; entire inability to retain nourishment. At the suggestion of a professional friend, I bought a bottle of Mellin's food and subjected it to a very careful analysis. It seemed to be a close imitation of mother's milk—so that I commenced using it at once. The change was immediate and permanent, and the patient is now a thriving girl of four years. The effect was due to the principle in the food which acted upon the curd, and albuminoids, and brought the cow's milk into a harmonious relationship with human milk. The whole system of the child was poisoned by unwholesome food, which it not only could not digest, but which was irritating the whole alimentary track. It wanted heat, and it wanted nitrogenous food. I satisfied myself by personal analysis of the constituents of the preparation, and found that it contained the principles which it seemed to me nature demanded, in exact combination, and more satisfactorily and more cheaply prepared than I could compound upon my own prescription.

CASE II.—The particulars of this case were furnished me by a friend. A physician was called to see a case where the child had convulsions after each feeding. He questioned the mother in regard to the milk used. She persisted that it was one cow's milk from a fine Jersey on her own farm, and was quite unwilling to make any change. She was finally persuaded to try the milk from another source, and use it with Mellin's food. The child began to improve at once.

CASE III.—Entero-colitis. H. D., the infant son of well-to-do parents, in the summer of 1882, had been allowed from time to time small quantities of starchy food in his milk. One night he became restless and irritable, slept but little, and when sleeping moaned frequently. Rejected his food. These symptoms continued for a day or two, when diarrhea set in. With the increase of inflammation the discharges became more frequent, consisting of small portions of feculent matter, undigested starch, casein, mucus, etc. The abdomen was tender to the touch, and somewhat swelled. Vomiting was troublesome; pulse 148. Ordered warm baths, poultices to abdomen, with one dose of spiced syrup of rhubarb and paregoric. Then gave a simple refrigerant mixture, with gradually-increasing quantities of Mellin's food. As the child grew better its abdomen was enveloped in flannel, and it was kept in the open air for as long a time as circumstances would permit. It thrived upon this artificial food, and soon was perfectly well.

These cases, which might easily be multiplied, are of interest only as showing that the nearer we approach to the essential principles of normal human milk in any substitution that we may make use of, the better will the results be. The general cause of these summer complaints is one of unwholesome or insufficient food. Nature never offers such to her new-born, and we may well pin our faith to her example. Feed the child upon that preparation which assimilates the closest to mother's milk, and little medicine will be required in our cases of so-called cholera infantum.

Clinical Lectures.

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1. EPILEPSY. 2. EPILEPSY FROM INSOLATION. 3. EPILEPSY. 4. CRANIOTABES. 5. PSEUDO-MUSCULAR HYPERTROPHY. 6. STRICTURE OF THE ESOPHAGUS.

A CLINICAL LECTURE BY A. JACOBI, M.D.,

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REPORTED BY REUBEN C. SHULTZ, M.D.

CASE I.—EPILEPSY. The notes on this case are about as follows: The child, a girl four years old, had pneumonia in April last. When two years old she had a diarrheal disease, followed by left hemiplegia, which continued for two days. The diarrheal disease was accompanied by a convulsion. The left arm remained weak for some time after the convulsion. The face was not affected. Before the pneumonia took place the child began to have staring attacks. After the pneumonia she began to complain of pain at the pit of the stomach. About two weeks later the attacks of pain were accompanied by rolling of the eyes and twitching of the lids, grating of the teeth and frothing at the mouth. These attacks occurred two or three times a day, and continued for about five months. The child usually fell forward. Sleep followed the attacks. No attacks have occurred since December 11th. The child is more quiet and natural. Iodide of potassium was prescribed at that time. The examination of the urine was negative.

There was, then, first, diarrhea. During the diarrhea a convulsion occurred, and this was followed by hemiplegia. But aphasia is not reported. Thus we are unable to say whether the hemiplegia was the result of disease of the upper portion of the spinal cord, or whether it was due to disease of the brain. At all events, since then the child has had a number of attacks; first, only of staring without convulsion; afterward there was convulsion. It had pneumonia last April, and quite a number of very severe attacks of convulsions since. We attribute the increase in the number of the convulsions after the attack of pneumonia to the congestion of the brain, or to the meningo-encephalitis, which is sometimes taking place in connection with, or depending on, inflammation of the lungs. You should not forget that when a child, or also an adult, is predisposed to have convulsions, if there be an active or a passive congestion or inflammation of the brain, or of the central organs generally, it will be likely to increase the pre-existing tendency to convulsions. Pneumonia is one of the conditions which is likely to have this effect, and that form which invades the upper lobes of the lungs has the greater tendency to bring on encephalic or meningeal congestion and attendant convulsions. I reported to you last week one such case which I had seen a few days previously, and since that time I have seen another case which belongs to the same class. A gentleman had had diabetes mellitus years ago of a very bad form; but he recovered and remained well for two or three years. His urine was examined for sugar carefully a number of times, but none was found. Now, you know that diabetes is not at all a disease of the kidneys; it is not at all even a disease of the liver; in many cases it must be looked upon as a nervous disease—a disease connected with some abnormal condition of the upper portion of the spinal cord, particularly in the neighborhood of the fourth ventricle. Now, every disease which may give rise to intracranial congestion may bring on diabetes, if it existed before; and so it was in the case of the gentleman of whom I am speaking. A robust, healthy man, he was taken with acute pneumonia, first in the lower lobe, when he was moderately sick; then it went to the upper lobe, and he was quite sick. On the sixth day the temperature went down, and it looked as if he might get well. On the fifth day, the day before the temperature fell, he noticed suddenly that he again began to pass a large amount of urine. The urine had been examined the week previously, and was found to be absolutely free from sugar, whereas now it was found to contain an immense amount of sugar. His diabetes had returned in consequence of cerebral congestion following pneumonia, and within two days he died of diabetic coma. I do not speak of the fact that when pneumonia is complicated with such a serious disease, it will be likely to turn out fatally; but that pneumonia, as such, may bring on a new attack of an old disease that is in any way connected with intracranial or intraspinal anomalies. So it was in the case of this child, whose condition, epileptic in character, grew worse after it had pneumonia. Concluding, then, that we probably had to deal also with the results of an old and secondary inflammation, we did not confine our therapeutical efforts to the use of bromide of potassium, based upon symptomatic indications; but we also administered iodide of potassium, five grains three times a day. I think we are justified in saying that, in consequence of this treatment, the attacks have not returned since December 19th. Certainly we are justified in continuing the treatment.

CASE II.—EPILEPSY FROM INSOLATION. The record in this case states that the patient, a girl four years old, has during the past three months had attacks in which she will run to her mother, who observes that her face becomes first pallid, then flushed; this is followed by drowsiness. The attack does not continue longer than a minute; drowsiness continues some little time. The mother has not noticed any spasms, nor has sleep followed the attacks. There may be two attacks a day, or only one in a week. The child has "never been sick."

I have never seen a single attack of epilepsy which did not set in with a stage of pallor, be it ever so short. The patients are pale when the attacks begin. What the mother describes regarding the patient's running to her, is the aura which the child feels. The stage of anemia preceding it, however short, the child may not feel at all. It matters not whether the attacks are very slight, or whether they are real convulsions; the first short stage is one of anemia with a pale face; then comes the flush, which the mother observes in this child; and then, perhaps, none or all the other symptoms of a complete epileptic attack. In this connection I remind you again of what I have already had occasion to speak of more at length than I can now do two or three times in this course, namely, that it is not necessary that children should have complete attacks of epilepsy, including the convulsions as you see them in the adult; on the contrary, it is very much more common for babies, when they have epilepsy, not to have the convulsive attacks at all. Frequently the attacks are nothing but a momentary staring, and now and then a little twitching of the muscles of the eye. There is seldom a sufficient amount of loss of consciousness to cause the patient to fall down if it walks. There is a staggering, and that is all. If they are at the table, they cease to eat, sit still, stare, wondering afterwards what is going on, and that is the end of the attack. Of such attacks they may have five a day, or even twenty, and I have seen as many as fifty in twenty-four hours, without interfering with the intelligence or general development very much. Generally, the intellectual development of children is interfered with only when they have complete attacks, and after a number of repetitions, with all the disturbances of the circulation secondary to the convulsions. In such cases the intellect becomes disturbed, and all the usual symptoms that we see in the adult, amounting perhaps to idiocy, may take place. The more frequent the attacks, as a rule, the lighter they are, and the lighter the more frequent. It is impossible, when the attacks are very light, to say whether they take place more frequently in the day or in the night. Epileptic attacks are very much more liable to take place in the night in the adult, if they are completely developed, than in the young. Now and then children will have light attacks in their sleep, without manifesting any disturbance at all, and it is impossible to say how often they may have had attacks of sudden anemia under such circumstances without showing any symptoms. The mother of this child says that she has had these attacks only for three months past. This, however, may be an error.

On being questioned, the mother states that the child had fits at the time she was cutting her teeth; and on further inquiry, she says that she was then twenty months old. But at that time all the front teeth had appeared, which must mean that the teeth had nothing to do with the fits. If the teeth are ever able to give rise to convulsions, they ought to do so when the infant is most vulnerable—that is, when it is very young. Convulsions that make their appearance after the baby has all its front teeth, eye-teeth included, and then come on "during teething," are not the convulsions that come on as a consequence of teething. They appear simply simultaneously with teething, and are in no relation to it. I lay some stress upon this point because nothing is more common, even in our times, than to attribute everything that happens to the baby "during teething," to that physiological process. Worms have gone out of fashion; teething has not yet done so. Malaria now and then takes the place of worms, so worms go out of existence and malaria is brought on the stage instead. In a few years you will hear less of malaria also. I lay stress on the fact that if a baby is going to have convulsions as a result of teething, it will be when the nervous system is still quite vulnerable. If it wait a year and a half or two years before having a convulsion during teething, it is more than merely probable that teething has nothing to do with it, or can be only one of the causes. For instance, a baby might be very nervous in consequence of anemia during a protracted convalescence. I admit that then the slightest irritation, even the irritation of teething, might suffice to give rise to a convulsion. But then there would be a combination of causes, and not teething alone. You see that this child at present has attacks which are clearly epileptic in character, and it is quite probable, therefore, that the convulsions which she had formerly were not attacks of accidental eclampsia. The fact that the patient did not have teeth before she was ten months old, and further, that the incisors first appeared in the lower jaw, and the fact that the head presents a normal development, would exclude the idea that the attacks were due to premature ossification of the cranial bones. In nineteen cases out of twenty of premature ossification of the cranial bones, the upper incisors appear first.

There is one other possible cause of the convulsions which took place when the child was about twenty months old, the convulsions, as the mother states, being three in number, occurring at intervals of about a month. I refer to the possibility of insolation, and we are told that the first attack took place in July, which would be in favor of that idea. It is not impossible that all the trouble in this case is due to insolation as the original cause. One reason for believing this to be so is, that when epilepsy occurs in early childhood, it is seldom at this particular age. You will see it in the first month, in the first year, but at the twentieth month there is no particular reason why spontaneous cerebral irritation should take place, unless there be accidental causes. Spontaneous irritation of the brain, liable to give rise to convulsions, takes place only when there is a large amount of physiological congestion going on; that is to say, during the principal growth of the organ. Now, the principal growth of the brain takes place during the first year of life, and particularly during the first six months. When the baby is nearly two years old the period of rapid growth of the brain has already ceased, and we would naturally look for an extra cause for a convulsion taking place at this time. If at that time insolation occurred, producing congestion and chronic meningitis, this condition would certainly be sufficient to give rise to all the symptoms which the child has manifested since. And in thinking the case over while talking, this would explain why at first the child had severe attacks, amounting to convulsions, while since then the attacks have been mild. There was then an exudative meningitis, a thickening of the pia, the child at that age was much more vulnerable to such a cause than at present, and convulsions were the result. From this view of the case the indications would be, beside the symptomatic treatment with bromide of potassium, measures directed to the absorption of the exudation. We might resort to the iodide of potassium, or the case not being a very old one, try the effect of mercury. The corrosive sublimate might be given in solution to the amount of a fortieth of a grain three times a day, diluted in at least a tablespoonful of water, or the blue ointment might be applied externally to the amount of fifteen to twenty grains daily. Then local derivation might be employed, and this might be accomplished by means of tincture of iodine or vesication by Spanish flies. Iodine, however, give rise to a great deal of pain, and scarcely anything will counteract this effect. The pain produced by the Spanish fly lasts but a little while, and may be modified by a poultice. The vesication might be repeated in a week or a week and a half.

CASE III.—EPILEPSY. This boy is eight years old, and has had attacks since 1882, characterized by a sensation of fire before the eyes, continuing for some five minutes, at the onset with pallor, then a flushed face, headache, and dizziness. The boy staggers but does not fall, and has no convulsion. At present the attacks are of longer duration than formerly. He has improved under treatment by bromide of potassium and tincture of digitalis.

You say the trouble is epilepsy, and that is true. When asked why is it epilepsy, you reply that it can be nothing else. It cannot be eclampsia, for the child does not have convulsions. His attacks are short, and have never been followed by vomiting. Undoubtedly such attacks are epileptic, and the epilepsy is characterized by these features: first, the *large number of attacks, one resembling another;* second, in the *beginning there is intense paleness. In every attack* of epilepsy, no matter whether it is mild or severe, and no matter whether there is an aura preceding it or not, there is intense paleness; and there is also, although it may be of ever so short duration, *unconsciousness.* Although these symptoms may not appear in the parents' history of the case, they must have been present, and occurred in each attack before their attention was called to it. Such slight attacks, often repeated, may go on for months and years, and finally a severe convulsive attack will take place. I have seen such cases often. While epilepsy in adults generally will not show such symptoms, but will usually come on with convulsions and less frequently, in children it frequently manifests such symptoms, and occurs twenty or thirty times a day without injuring the intellect for some time.

The boy has taken bromides for quite a while, and he certainly has improved; still, his general condition is not good. It is a question whether we should not do something for the general health, and the first medicine which would be suggested is iron; but there is this objection to iron, that if vascular irritation is present, it will increase it. Therefore I select an alterant which will act as a good nutrient and, at the same time, not prove a possible excitant to the vascular system. Better than all others for this purpose is arsenic. Moreover, it is known to be a good nervine in just such cases. I shall, therefore, give him one good dose of bromide of potassium once a day and arsenic regularly. He may take two drops of Fowler's solution, diluted in plenty of water, three times a day after meals, and from twenty to thirty grains of bromide of potassium at night. Avoid stimulants in diet, take a little cod-liver oil, and plenty of fresh air.

CASE IV.—CRANIOTABES. *Gentlemen:* This child, the clinical assistant says, was brought here last week with eczema of the face and a few eczematous spots on the chest.

This was not the first time it had such an eruption. He says, further, that the child had a peculiar form of the head, called craniotabes. It was put upon liquor potassæ and cod-liver oil as external treatment, and received the iodide of iron internally.

Those of you who saw this child before will remember that the head, as at present, was flattened on the right side behind, over a portion of the parietal and occipital bones. Now this can be due to only one of two reasons, either to a want of brain-substance inside, causing the bone to close in over the deficiency; or to softening of the bone and subsequent flattening from the weight of the head as the child lay in bed. We had reason to believe that the latter explanation was the true one, inasmuch as there were other symptoms pointing to rachitis. We found slight curvature with some epiphyseal swelling of the long bones, an undue amount of fat, etc., which led us to the conclusion that the child had rickets. But this baby is seven months old, and craniotabes, or rachitical softening of the head, takes place usually when the patient is only two, three, or at most four months, and it is apt to heal up in the course of a few months, the cranium then assuming its normal, or at all events nearly its normal, shape. Some of you will remember that I showed you a case about two weeks ago in which the periosteal thickening and the local softening of the bone was quite marked. When the bone thus becomes locally softened, the child lying on that side, it will yield and become flattened, and you are able easily to recognize the presence of craniotabes by the giving way in spots under pressure by your finger. You will remember, however, that I drew your attention at that time to the necessity of distinguishing between the local softening of tabes and the apparent softening along the sutures and at the fontanelles where the structures yield to pressure by the finger more than elsewhere. As a rule, when craniotabes has healed, the bones assume their former shape, and present again the natural rounding which belongs to the cranium. But here it has not done so, and it therefore struck me that there might be another cause for the flattening of the skull in this region—that the deformity might be due to a defect of brain development within. The brain may not have been developed so well on the right side as on the left from the beginning, which would explain why flattening remains. It is true that the baby looks intelligent enough, but now and then you will find a case in which the intellect appears tolerably well-developed, and still there be a defect of some part of the brain. There are two hemispheres of the brain, and sometimes one is quite deficiently developed, and yet the person be quite intellectual. I remember such a case occurring in a baby which died in a public institution. It was considered a fairly intellectual baby, and yet, when it died at the age of six or seven months, it was found that, aside from one hemisphere and the base of the brain, there was no further encephalic development; the membranes were present, but the lateral ventricle on one side was so greatly expanded that scarcely any brain-tissue remained. Now, in that case, the baby was supposed to be normally developed mentally. It is true it may not have been so closely observed in the public institution as it would have been were it nursed in its mother's arms, still the case shows how easily mistakes may be made if we base our judgment alone upon the mental manifestations of the patient. We can decide the question in this case after some weeks, by observing whether the normal roundness of the bones of the head shows itself. The eczema from which the patient was suffering has improved by the applications for dissolving and removing the scabs, and by the tonic treatment.

[TO BE CONCLUDED.]

Clinical Memoranda.

A CASE OF PSEUDO-MEMBRANOUS COLITIS.

BY HENRY DWIGHT CHAPIN, A.M., M.D.,

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THE subject of non-infectious pseudo-membranous inflammation of the colon or rectum is not one much noticed by the books. Occasionally these cases occur, possibly with not such rarity as is sometimes supposed. The following case is interesting not only on account of the nature of the lesion, but from its occurrence in a young infant.

John T., aged five months, was brought to my clinic at the Out Door Department of Bellevue Hospital, January 18, 1884. His mother gave me the following history: The baby was born at term, and had always enjoyed good health. He was brought up on the breast, and nursed well. His illness had begun two weeks ago, when he was taken with severe pains at night, having been all right the day before. Shortly after the invasion of the pain the baby began to have bloody discharges from the bowels, which lasted about six days. The stools then gradually became free from blood, but his mother stated they continued to present a slimy appearance. There were many discharges in the course of the day. On January 17th the baby was seized with severe straining, and there prolapsed from the anus what appeared to be a part of the bowel. The physician in attendance oiled and returned the protrusion, but it came down again with the next movement. It was repeatedly pushed back, but would return again with every discharge. The mass grew longer and thinner every time the bowels moved. When I first saw the baby on January 18th, he did not present a very sick appearance; in fact, there was not nearly as much cachexia as is present in the average case of summer complaint. There was an offensive odor from the frequent slight discharges, rendering it almost impossible to keep the linen clean. Temperature, 101½°. There was seen protruding from one side of the anus, and not encircling it, a long, rather narrow mass about the size of an adult little finger. Its appearance to the naked eye was not unlike the mucous membrane of the bowel. It was removed without difficulty, and preserved for microscopical examination. The baby was given subnitrate of bismuth in chalk mixture, and small doses of whisky. I again saw the baby on January 21st, when it seemed a little better. Temperature, 100¼°. The passages were less frequent, and there had been no more membrane extruded. As the infant was nursing well, and seemed stronger, I gave a favorable prognosis.

The mother did not appear during the next few days, and I sent to her rooms to find out how the baby was progressing. I was surprised to learn that it had died quietly on the evening of the 21st, the last day it had been to the dispensary. The pseudo-membrane expelled from the rectum was examined by Prof. Welch, who has given me the following report: "The membrane consists of inspissated mucus, fibrin, red and white blood-corpuscles, and disintegrating cylindrical epithelial cells. There are no blood-vessels or connective-tissue fibres in the membrane. The membrane is the result of a so-called pseudo-membranous colitis or proctitis."

The false membrane produced by this inflammation was not diphtheritic, and was distinct from dysenteric discharges. It had been mistaken at first for a prolapse of the rectum, but when this occurs the bowels come down as a complete ring, which should have prevented such an error in diagnosis. A polypus comes down only on one side, but would not have formed such a long and narrow mass as the membrane presented. As far as I can learn, the symptoms presented by this form of pseudo-membranous colitis are not usually severe. Bristowe, in Reynolds' "System of Medicine," states that croupous inflammation may be met with in the large intestine in scattered patches, which at times are linear, or again irregularly polygonal or stellate, and often occupy the prominent ridges of the mucous membrane, more especially the edges of the intersaccular constrictions. In some instances it forms a coarse, irregular network, extending over large tracts of surface; in other cases it assumes uniform patches of considerable extent. Croupous inflammation occurs less frequently in the small intestines, but may be found in them affecting the free edges of the valvulæ conniventes, or spread over a large area. He states that cases sometimes come under observation in which patients pass "per anum" shreds of false membrane, or even membranous casts of the bowel, of soft texture, various thickness, and of a dirty greenish or brownish hue. The author also adds that the symptoms attending croupous enteritis are not special; varying, according to circumstances, on the one hand between those of diarrhea and dysentery, and on the other hand between those of mere colic and of typical enteritis. The patchy form so common in the large intestine may often be overlooked during life when it occurs as a complication of the later stages of grave disorders.

Current Literature.

1. HYGIENE AND THERAPEUTICS.

Epstein: Concerning the Hygiene of the Oral Cavity in New-Born Children. (*Arch. f. Kinderh.*, B. V., H. 7 and 8.)

The author remarks the importance of this subject from the fact that the mouths of children are susceptible not only to ordinary affections which are common to all ages, but also to certain others which are restricted to the early period of life. Since these affections can in most instances be avoided, the importance of attention to this subject is quite evident. The diseases to which the author calls attention are simple erythema, catarrhal stomatitis, circumscribed necrosis of the edges of the palate, and other similar changes at other points in the oral mucous membrane, and thrush. These may all be considered, in a general way, under the head of *stomatitis in new-born infants*, catarrh of the mucous membrane being a common symptom and the principal factor in the disease. The exciting causes of catarrh may be referred to the irritating action of air, food, the act of swallowing, etc., upon a very tender surface. It may be merely a local phenomenon, a symptom of an affection which involves the mucous membrane of the entire intestinal tract, or it may be an accompaniment of a general disease. With the catarrh may be associated a softening and destruction of the epithelium upon the postero-lateral portions of the hard palate, which may develop into an infiltration and necrosis of the mucous membrane throughout its entire thickness, in larger or smaller patches, which are known as aphthæ. Other portions of the hard palate, the soft palate, and the dorsal surface of the tongue along its central portion, are less frequently affected. Innocent as this disease is in some cases, in others it leads to quite serious conditions, which may affect the entire organism. Such conditions, in the shape of pain and interference with suckling, very soon tell disastrously upon the sensitive constitution of a new-born infant. Dyspepsia supervenes, and with it may come gastro-enteritis, inflammation of the salivary glands and their ducts, nasal catarrh of a muco-purulent character, purulent inflammation of the middle ear, bronchitis, or lobular pneumonia. The local trouble may assume a phlegmonous form, with ulceration or gangrene of the mucous membrane at various points, and this may be complicated by the formation of abscesses in the alveolar borders or on the floor of the mouth, deep ulcerations in the frænum of the tongue, purulent glossitis, retropharyngeal abscesses, and erysipelas. The most frequent cause of the beginning of all these troubles is, as has already been remarked, to be attributed to the *mechanical irritation* of a very tender surface; and, in addition to those agencies which have already been mentioned, the author refers to the common habit of washing out a child's mouth immediately after nursing, for the purpose of removing the milk which has adhered to the mucous membrane. This procedure, by rubbing off the epithelium, and even producing slight hemorrhage, often begets the very condition which it is designed to prevent. Mention is also made of the irritation which may be produced by a physician in removing the mucus from the mouth of a new-born babe, or by a nurse in introducing her finger into its mouth for whatever cause. Without making any especial reference to treatment in these conditions which have been discussed, the author plainly leads us to infer that the true treatment is prophylactic—that is, forbearing to interfere with the condition of the mouth until there is some plain indication for such interference. Among three hundred infants which were seen by him at the Foundling Hospital in Prague, within a period of eight weeks, one hundred were from Breisky's clinic, in which non-interference with the mouth, according to the author's suggestions, is practiced. Of the one hundred cases, in fifteen only were there affections of the mouth like those we have been discussing. In the remaining two hundred (which were brought in from the city at large), one hundred and thirty-three had some form of disease of the mouth.

Pfeiffer: Contribution to the Physiology of Mother's Milk, and its Relations to the Nourishment of Children. (*Arch. f. Kinderh.* [from *Jahrb. f. Kinderh.*, B. XX.], B. V., H. 7 and 8.)

Complete published analyses of mother's milk had been made only by Vernois and Becquerel previous to those which were made by the author, and he contends that their methods were defective. Consequently their results as to the quantity of sugar and fat were erroneous. The method which the author employed was the following: The casein is precipitated by alcohol, or by dilute hydrochloric acid; next the albumen is precipitated by boiling; the sugar is obtained by filtration with an alkaline solution of cyanide of mercury; finally, the residue of albumen is obtained as a tannate. The fat is extracted from the casein precipitate with ether. The salts, which resist the action of heat, and the dry substance, which is very small in quantity, are also ascertained. During two years the author made one hundred and nine analyses, covering all the periods of the nursing epoch, the specimens being obtained from women who had borne from one to ten children. In almost every case he obtained the specific gravity, casein, albumen, fat, sugar, and salts. His results, as already said, do not agree with the published reports of other investigators. His first attempt was to ascertain the changes as to quantity which occur to the chief constituents of the milk during the progress of lactation. The milk of the first few days of the puerperium, the colostrum, differs chiefly from that which is subsequently secreted in the fact that it is coagulable by heat, but it also has a high specific gravity, much albumen and salts, and very little sugar. The albumen diminishes as lactation progresses, from 3.498 per cent. in the first month to 1.405 per cent. in the eleventh. The salts undergo similar diminution. On the other hand, the sugar increases from 4.506 per cent. in the first to 6.179 per cent. in the twelfth month. The fat, the specific gravity, and the solid constituents show no remarkable change in the course of lactation, though the fat is, in the average of cases, somewhat less abundant in the first months than it is in the subsequent ones. Therefore, in the milk of the early months, there is a preponderance of albumen and salts, less of sugar; in the milk of the later months, on the other hand, there is a diminution of albumen and salts, and a preponderance of sugar. While the quantity of fat remains nearly constant for all periods of lactation, it varies for each occasion of nursing, according as it is the first, second, or third portion which is removed from the glands—the first portion containing from two to seven per cent. less of fat than the third portion. This fact is of considerable practicable importance in cases in which a wet-nurse is required. As to the quantity of milk which is secreted, it seemed to increase to a certain period of lactation, then to remain constant for a time, and then to decrease, the estimate being that the decrease begins usually in the twenty-eighth week. In women between thirty and forty years of age, the milk is rich in albumen, sugar, and salts, but poorer in fat than that of women between twenty and thirty. There is also more fat in the milk of multiparæ than in that of primiparæ. The richer the mother's food in albuminous substances, the richer her milk will be in albumen and fat, and the poorer in sugar and salts. Should menstruation occur during lactation, the sugar in the milk will be greatly increased, and the infant will be likely to suffer with frequent watery stools.

Credé and Weber: The Treatment of the Navel in New-Born Infants. (*Arch. f. Gynäkologie*, B. XVIII., H. 1.)

The two dangers which are to be avoided in the treatment of the navel-string are, (1) hemorrhage from the stump; (2) inflammation of the navel and its consequences. When the child begins to breathe, a complete change in the conditions of the circulation, of course, takes place. Within ten minutes after ligation of the navel-string the pulsation in the stump has ceased, as a rule. On account of the freedom from umbilical hemorrhage, which usually obtains in animals and in certain primitive races of men among whom ligation of the navel-string is not practiced, it has been proposed by some to do away with the custom of tying as unnecessary, but this proposition has not been received with favor by the conservative element of the profession. Hemorrhage may occur hours or days after birth from causes which produce increased activity of the heart, or as the result of obstruction in the venous system. This accident is especially to be feared in the case of immature and asphyxiated children. The double ligature of the cord, that is, at both the fetal and the placental end, is advocated in all cases as the safer method, especially since one does not always foresee a possible twin pregnancy, and hemorrhage from an unligatured cord, in such a case, might be an unfortunate occurrence. The authors are not in favor of ligation immediately after birth, nor do they think it desirable to await complete cessation of pulsation of the umbilical artery. There is some danger in either procedure, and an interval of two or three minutes from the time of birth is thought to be sufficient to obviate that danger. The materials which are recommended for the ligature are carbolized silk or hempen cord, or some form of elastic ligature. Säuger recommends penetration of the cord with a needle, and winding a suitable ligature around it at both ends, but the authors do not think well of the plan. If elastic ligatures are chosen, either thin rubber-bands may be used or small drainage-tubes. Greater security will be obtained by winding them two or three times around the cord before tying. By the eighth or tenth day, not only should the stump have been cast off, but also the navel should be entirely healed. As to treatment of the cord after ligation, the less it is interfered with the better. Of course, the less moisture it receives the sooner it will mummify and drop off. The cotton or linen in which it is wrapped should be changed daily, cleanliness being an important feature of treatment. Säuger and Fehling recommend that a layer of salicylate of starch be sprinkled upon the bandage which is to be secured around the stump. Extensive antiseptic precautions in a matter of this character are thought to be unnecessary. In some cases they are, doubtless, harmful.

Biedert: Investigations Concerning the Difference Between Human and Cow's Milk. (*Arch f. Kinderh.*, B. V., H. 7 and 8.)

The author shows experimentally that the difference in the coagulability of human and cow's milk is to be found neither in the fact of a larger quantity (relatively) of casein nor in a more decided alkalescence, but in the fact that the casein of human milk is an absolutely different chemical body from that of cow's milk. This is evident as well from the action of the two bodies toward reagents as from their respective behavior with gastric juice. The casein of human milk is coagulated by gastric juice, but an excess of the same dissolves the coagulum. An excess of gastric juice has no such effect upon the coagulum of casein from cow's milk. The foregoing remarks apply equally well in regard to goat's milk. As a collateral result, it may be stated that the coagulation of pure cow's milk, or cow's milk mixed with rennet, does not depend absolutely upon the presence of free acids, since it may take place in fluids which have an alkaline reaction. From the experiments in digestion, which were made with human milk, cow's milk, goat's milk, and the different mixtures of milk, it appeared that, *cæteris paribus*, human milk digests much more quickly than any of the others. There appeared to be no great difference as to the rapidity of digestion between simple cow's milk and its various combinations. Long ago (1869) the author showed that the casein in human milk was 1.5 to 2 per cent., and recent experiments have established the correctness of the statements. The statement of Meigs (See ARCHIVES OF PEDIATRICS for April), that the quantity was only .75 to 1.25 per cent., is thought to be erroneous, in addition to the fact that there is a difference in quality as well as quantity in the casein of the two products. The comparisons which the author made experimentally with human milk were with pure cow's milk, goat's milk, diluted cow's milk, (the dilution being made with water, gruel, gum solution, or meat soup), alkaline cow's milk, the same salted, the same boiled, Liebig's soup, Biedert's cream mixture, Pfeiffer's pancreas milk, Lohrmann's artificial mother's milk, and the various preparations of flour and zwieback. Of these, pure cow's or goat's milk and Liebig's soup were found to be entirely improper and unsuitable. The flour preparations and zwieback can be used only in certain cases. In the author's practice, he ordinarily prefers diluted cow's milk, changing from this to the cream mixture which goes by his name. Peptonized milk is also found useful in certain cases.

Dolan: On Defective Lactation, its Causes, and the Influence of Medicinal Substances upon It. (*Arch. f. Kinderh.* [from *Brit. Med. Jour.*, No. 1205, Feb. 2, 1884], B. V., H. 7 and 8.)

The following remarks indicate the result of the author's investigations. Medicinal substances from the botanical families liliaceæ, cruciferæ, solaneæ, and umbelliferæ, pass into the blood, and thence into the milk; they should therefore not be taken by nursing women. There is no true galactagogue; jaborandi only increases the milk-supply temporarily; belladonna has a positive effect in stopping the secretion of milk. The milk-salts may undoubtedly be increased by the use of certain medicinal substances. An infant may obtain the benefit of cathartics, diuretics, etc., through the medium of the milk of its mother or wet-nurse. Among the causes of diminished activity of the milk-secreting function may be mentioned organic defects in the glands themselves, a difficulty which cannot be overcome; general plethora, which may be successfully treated; torpor of the glands, which sometimes yields to daily application of the electrical current; irritation of the nipples, warm cataplasms, etc. The most common cause of impairment or abolition of the function of lactation is anemia. This cause, the author observes, is becoming more and more universal in the lower strata of society, especially among the employés in factories in large cities, so that the number of women who cannot suckle their children is constantly increasing. Increasing mortality among children is a consequence, and the race is, in so far, deteriorating. Among women in the higher walks of life, too, the influence of improper diet, perverted manner of living, etc., are having their effect. The remedy for these evils among the lower classes, or at any rate a partial one, lies in the increase and popularization of places of entertainment, in which coffee, cocoa, milk, and other nourishing preparations can be had, but no spirituous liquors at all, at low prices. Children should be strengthened by suitable physical exercise, and at the proper time they should receive instruction in the fundamental principles of anatomy, physiology, and hygiene.

Delthil: A New Treatment for Diphtheria. (*Jour. de Médecine*, May 17, 1884.)

The author's paper upon this subject was recently read before the Académie de Médecine (Paris). His conclusions are as follows: 1. The burning of a mixture of coal-tar and turpentine, in the proportion of 200 grams of the coal-tar to 80 of essence of turpentine, renewed every two or three hours, according to the gravity of the case, and gradually discontinued as improvement occurs, is a specific means of treatment in diphtheria. 2. The fumigation acts primarily to dissolve the false membranes, the inhalation of the combustion product being well born. 3. The fumigation acts as a parasiticide or a microbicide. 4. If used at the commencement of the disease it will stop it. 5. When the disease has lasted only a few days, it *may* cure it. 6. It makes the operation of tracheotomy a more hopeful one, in cases in which it is demanded, than has hitherto been its customary history, success being assured in many instances. 7. In addition to the benefit which the combustion of these substances gives to the patient, it is also a means of protection to his attendants, by virtue of its properties as a parasiticide. Its value can, therefore, be appreciated as a disinfectant for schools, asylums, and public buildings. 8. The fumigation is quite inoffensive, both to the sick and the well. 9. The best method for producing the combustion will depend upon one's surroundings. Very simple apparatus is all that is actually needed. In the discussion which followed the paper, opinion was divided as to the value of the means and method proposed. It was thought by some that the author's claims had not been substantiated by facts.

Treatment of Diphtheria. (*Journal de Médecine de Paris*, May 18, 1884.)

Under the head of new applications for therapeutic purposes, the Journal has an article upon rectified oil of turpentine in the treatment of diphtheria. In the hands of German experimenters it has been found to act with wonderful rapidity, since within half an hour after its injection a bright red rim can be observed around the diphtheritic exudate, which is soon cast off. The dose for children is a coffee-spoonful morning and evening; for adults a desert-spoonful. It may be given to children directly after a drink of warm milk, or it may be mixed with the milk, and then taken. Incidentally the paper adds that the same drug has been found very efficacious in cases of tetanus in horses, twenty-five grams mixed with oil being given hourly, until relief is obtained. The same paper reports favorable accounts of the use of eucalyptus globulus in cases of diphtheritic angina, the patient being kept for several days in a room the atmosphere of which is charged with the volatile principles of the leaves of this drug. Further, a mixture of pure pepsin, salicylic acid, and water has been found efficacious in the same disease.

Vovard (Bordeaux): Treatment of Meningitis in Children with Iodide of Potassium and Croton Oil. (*Arch. f. Kinderh.* [from *Gaz. des Hôp.*, 1883, No. 49], B. V., H. 7 and 8.)

The following method of treatment, in cases which are not complicated with tuberculosis, has yielded good results in the author's hands. The child's head is shaved, and a thin layer of croton oil is spread over the scalp with a soft brush, after which the head is covered with a linen cap. This procedure is repeated three times daily until an abundant pustular eruption results. Next, beet-root leaves are sewed into a small hood with which the head is covered, this also being done two or three times a day. At the same time iodide of potash is given in reasonable doses. The result of this treatment will depend upon the extent and duration of suppuration. The author saved eleven out of thirty cases by this method.

Bouchut: Concerning the Nourishment of Small Children with Oatmeal. (*Arch. f. Kinderh.* [from *Gaz. des Hôp.*, No. 125, 1883], B. V., H. 7 and 8.)

This paper refers to the use of the so-called Morton oatmeal for children four or five months of age. Oats contain an aromatic principle resembling vanilla, which gives to the fresh grain an attractive odor. This has been extracted by Journet with water and alcohol. The analysis of the Morton oatmeal by Brissonnet gives the following results in 100 parts: Water, 9.906; protein substances and soluble albumen, 2.10; insoluble albumen (gluten), 9.40; fat, 6.525; sugar, .965; gum, 1.57; dextrine, 1.324; fibrin, 1.564; starch, 64.57; ash, 2.076 (principally sodium, magesium, calcium, iron, phosphates, sulphates, chlorates); nitrogenous substances, 1.614. Microscopical investigation of oats reveals nothing but starch. From this analysis it would appear that the preparation in question is a very useful one for young infants.

Petrone (Naples): Strychnia in Poliomyelitis Centralis Anterior. (*Arch. f. Kinderh.* [from *Irrenfreund*, 1883, No. 6], B. V., H. 7 and 8.)

This substance was used by the author in two cases with decided success. One case was that of a boy five years of age, who at the age of thirteen months had acquired paralysis of both lower extremities, after an attack of fever which was accompanied with convulsions. Four months later power of motion returned in the left leg, while the right continued paralyzed. The right leg was two centimeters shorter than the left, and the circumference of the calf three centimeters less. After using the galvanic current for ten days without success, strychnia was employed in the following manner:

Strych. Sulph., 0.01 gm.
Ext. Gent., 6.
M. et ft. pil. nu. xx. Sig., one pill daily.

After eight weeks' use of the foregoing the paralyzed member could again be used. This treatment was followed by methodical gymnastics and massage, resulting in a perfect cure. The second case was that of a boy four years of age, who became paralyzed in the left leg at the age of fifteen months. Two months of treatment, similar to that which was used in the former case, resulted in a cure.

Tay: Microscopic Appearance of Bromide of Potassium Eruption. (*Brit. Med. Jour.*, May 24.)

Mr. W. Tay mentions a child, eleven months old, who had been taking four and a half grains of bromide of potassium for ten days. On the ninth day, developed a vesicular eruption upon the thighs and buttocks. The drug was stopped on the tenth day. On the twentieth day the eruption consisted of large elevated disks, with a surrounding zone of partially dessicated vesicles. The eruption disappeared six weeks after the last dose. A microscopic examination, by Dr. S. Mackenzie, showed active hyperemia of the corium, of the papillæ and sebaceous glands, especially with corpuscular and fluid exudation.

2. MEDICINE.

Bertix: Insufficient Urination in New-Born Infants. (*Arch. f. Kinderh.* [from *Bull. d. Scienz. Med. d. Bologna*, Ser. VI., Vol. XII., 1883], B. V., H. 7 and 8.)

Five cases are detailed, in which there was either insufficiency or absolute cessation of the discharge of urine.

In the first case, which was that of a well-developed female infant, diarrhea and fever occurred on the fifth day after birth, and on the eighth coma, cyanosis, and swollen abdomen. Neither urine nor feces had been passed, and catheterization yielded a negative result. Death followed, and at the autopsy a cloaca was found, which was formed by the bladder divided upon its posterior aspect and in communication with the vagina, which was much dilated and filled with purulent urine. The uterus was forced upward, the mucous membrane was everywhere eroded, the urethra was wanting, and the ureters were compressed by the umbilical arteries and the round ligaments. The left kidney was deeply imbedded. The second case was that of a rachitic boy twelve months old who, when seen, gave all the symptoms of an acute attack of cholera morbus. Death occurred on the second day. The autopsy revealed chronic catarrh of the large intestine, urine mingled with pus in the bladder, and phimosis. The ureters were filled with urine, which could be evacuated by pressure. The series of events which led to the fatal issue evidently was phimosis, catarrh of the bladder, edema about the openings of the ureters, and uremia. In the third case, that of a new-born infant, convulsive movements came on some hours after birth, coma, no discharge of urine, and death. The autopsy showed subpericardial effusion of blood near the apex, mottled appearance of the liver, mucous membrane of the bladder disposed in folds and edematous. The ureters were dilated, and there were uric acid infarctions in the kidneys. The want of alkalies was the main difficulty in this case, and warm baths could also have been used with advantage. In the fourth case the child was two days old, and presented small fontanelles and atelectasis. No urine had been passed. On the third day there were convulsions. By the use of the catheter a small quantity of urine was drawn off, but death occurred on the same (third) day. At the autopsy hydrocephalus and compression of the brain were manifest, also dilatation of the pelvis and calyces of the kidneys, as well as of the ureters, the latter containing urine which abounded in uric acid infarctions. The cause of death is obvious. The fifth case was that of a puny, undeveloped infant who suffered with convulsive movements and pain in the hypogastrium. After symptoms of broncho-pneumonia, death occurred on the fourth day from birth. In the submucous tissue, near the neck of the bladder, four accumulations of extravasated blood were found, two of them being under the openings of the ureters. Thus the exit of urine from the ureters into the bladder was interfered with, and the occurrence of pain is also explained. The author draws no conclusions from the cases which he has narrated.

Henoch (Berlin): **Concerning Chorea.** (*Arch. f. Kinderh.* [from *Berl. Klin. Wochen.*, 1883, No. 52], B. V., H. 7 and 8.)

Under the name *chorea* are included different conditions which have in common only the peculiar series of muscular movements. H. describes two recently observed cases of *chorea electrica*, which were caused by fright. In one there were rapid convulsive movements which affected the entire body, but particularly the occipito-frontalis muscle; in the other there were also rapid twitchings, similar to those which are produced by the electric current, and at the same time a complete interruption of speech. There was also, at each paroxysm during inspiration, a sound like that which is made in drinking, which was apparently associated with a spasmodic contraction of the diaphragm. A cure was produced by galvanization. The author differentiates ordinary chorea from symptomatic chorea, the latter being dependent upon certain changes in the central organs. H. has observed cases of this variety associated with tuberculosis of the brain, and tuberculous meningitis. H. has failed to notice the relationship which is claimed between chorea and similar affections and tuberculosis of the thalamus opticus. The cases of partial chorea, or rather a combination of imperfect choreic movements with contractures, belong also to the domain of symptomatic chorea, and hence are to be regarded as affections of central organs. The *chorea hysterica* of Trousseau presents phenomena which are often decidedly hysterical in appearance, but the course of certain cases which were observed by H., especially the indications of psychic degeneration, have finally convinced him that the choreic movements may be symptoms of cerebral disease. In regard to the question as to whether the origin of chorea, or rather the seat of the disturbances of co-ordination, is in the brain or the spinal cord, H. is opposed to the view of Legrand and Onimus, and concludes that the disease is of cerebral origin. In order to sustain his position he refers to the effect of chloral upon the choreic movements, the psychical depression in cases of long duration, the frequency of the form of hemichorea, the participation of the facial nerve, and the disturbed balance of psychical forces. The influence of the blood as an original factor is next in importance. The disease may arise in connection with anemia, or in cases in which the blood is altered by infection. The relationship of the disease to rheumatism is still undecided, but Henoch's opinion is that the condition of the heart (in rheumatic affections) has nothing to do with cholera, likewise that it bears no relation to embolism of the brain.

Ante-Natal Influences. (Editorial, *Medical News*, June 7, 1884.)

Our real knowledge of ante-natal influences, whether at time of conception or in the subsequent development of the new being, is very little more than that possessed many centuries ago. Diogenes said to the stupid youth, "Your father was drunk when you were conceived." Vulcan's deformity was the proof of Jupiter's drunkenness when he was begotten. About all we know at the present day is that, if either of the parties to a fruitful coition is drunk, the child usually has some physical, intellectual, or moral defect—may be an epileptic or an imbecile. It is highly probable that less pronounced intellectual and physical conditions of the creators, at the time of creation, do impress themselves upon the offspring, and that the qualities and characters that are shown in the months and years that follow are but the working out of those first forces in organization.

Most children are accidents, and hence we should not be surprised at examples of physical deformity or imperfection, mental deficiency or moral obliquity.

When human beings invest the possibilities of reproduction with its far-reaching consequences, there will be a great improvement in offspring. Man or woman prepares for the photographer by a careful toilet, goes unfatigued, and with a face undarkened by sorrow or anxiety—is desirous of appearing at his or her best in the counterfeit presentment which is made. Ought not parents to exercise much more care in the possible reproduction of themselves as they are at the time of coition? A child is possibly the incarnation of transitory states, impulses, feelings or thoughts—noble or base—of its parents. A few minutes may determine whether those living images shall be healthy, happy, useful members of society, or born to a heritage of disordered, diseased nature.

As to subsequent influences exerted through the pregnant woman's mind upon her unborn child, we are in the region of fable and conjecture. Van Swieten states that a young lady had an exact representation of a caterpillar on her neck, caused by her mother, when pregnant, being frightened by finding a caterpillar on her own neck. Haller assures us that an Ethiopian woman had several white children, and the explanation was that she had in her house a white-marble statue. The kleptomania of a wealthy lady has been attributed to the fact that her mother, when pregnant, was denied the "cravings for a variety of things." The mother attributes the hare-lip of her child to having seen such a condition when two or three months pregnant, or later; but such arrest of development must have occurred before the second month of pregnancy. Such extravagant stories contribute to influence most physicians to reject the theory of mental impressions made upon the mother in pregnancy affecting the fetus. We are unable to explain how such influences can act on the fetus.

Before deciding the impossibility of a fact occurring, let us look for the facts and then look for their explanation. Here is an important field for the collection of well-authenticated facts. A popular belief, so widespread and so long lasting, indicates its containing some elements of truth.

In a recent lecture given by M. Legrand du Saulle, at Salpêtrière, it is stated that the numerous disorders of development, and the exceptional mortality observed in children born in the latter months of 1871, caused them to be known as *enfants du siège.*

Ophthalmia in New-Born Infants. Its Pathogenesis, Prophylaxis, and Treatment. (*Arch. de. Tocologie,* March, 1884.)

This paper comprehends a general editorial review of the subject in hand. This affection proceeds in a parallel with puerperal affections, which are destined to be greatly mitigated with the more thorough knowledge and application of the germ theory, and the same result will follow in the case of those which are kindred with or developed from them. The modern opinion concerning ophthalmia is that it is an infectious disease, developing under the influence of a specific cause, which acquires its full virulence only in the midst of favorable or congenial surroundings. This statement is proven by the prophylactic and curative treatment according to modern ideas, which has brought so great a degree of success. The experiments of Guille upon the eyes of children born blind, of Piringer upon children affected with pannus, and of Zweifel upon children with healthy eyes, all lead to the conclusion that ophthalmia neonatorum is caused by the transmission and propagation of the diplococcus, the gonorrheal coccus of Neisser. [Zweifel had the courage and the audacity to deposit into the conjunctival sacs of six infants lochial discharges, taken at periods varying from three to thirty days after confinement, which had first been subjected to microscopical examination and were found to be free from gonococci. No trace of inflammation or of suppuration followed. Two of the women from whom the discharges were taken had formerly had leucorrhea. Among the *favorable surroundings* referred to as encouraging the development of the disease, are mentioned high temperature, wind, exposure to too strong a light, and catarrhal affections of the air-passages. It is frequently found associated with suppuration of the navel-string, icterus, erysipelas, in a word, with phenomena accompanying the puerperal condition. Certain hospitals seem to be favorite places for the development of its germs. With reference to the mother, predisposing factors are found in the primiparous condition, malformations of the pelvis, and a protracted labor; on the side of the child, syphilis, scrofula, and faulty presentations, especially of the face. Among internal predisposing causes on the part of the child are mentioned various skin diesases, and certain ones of the mucous membrane, especially the mucous membrane of the mouth. Specific causes of external origin are, (1) direct contamination of the child's eyes by the maternal secretions; (2) contagion from one eye to the other, from one child to another, by the couch and the clothes of those who are already affected, by the direct touch of nurses or other attendants, by indirect contagion through the medium of the air. Prophylaxis is possible either in a general or a direct manner. The first consists in a proper disinfection and ventilation of the lying-in chamber, and antiseptic precautions, both as to persons and instruments. Direct prophylaxis will consist in suitable vaginal douches for the mother before labor begins, the same after the discharge of the amniotic fluid (a two per cent. solution of phenic acid is recommended), and immediate cleansing of the eyes *post partum*. For this purpose solutions of salicylate of soda, chloride of lime, phenic and boric acids, etc., are variously recommended. This is to be done carefully with a soft rag, on the supposition that infection has not yet occurred. Credé's plan consists in the instillation into each eye of a single drop of nitrate of silver solution, one part to fifty of water, immediately after birth, and during the next twenty-four hours the application to the lids of compresses moistened with a twenty per cent. solution of salicylic acid. If prophylactic treatment has been neglected and the disease has attacked a patient, the author believes that the best plan of treatment is a modification of Credé's, that is the application of a two and a half per cent. solution of nitrate of silver twice daily until recovery occurs.

Mackensie: A Contribution to the Study of Congenital Syphilis. (*N. Y. Med. Jour.*, May 31.)

Dr. John N. Mackensie gives some observations on the manifestations of congenital syphilis in the throat. The following conclusions were reached in reference to deep, destructive ulceration of the oro-pharyngeal cavities: 1. That deep ulceration may invade the palate, pharynx, and naso-pharynx at any period of life from the first week up to the age of puberty. 2. When the eruption of inherited syphilis is apparently delayed until a late period, lesions of the palate and pharynx are found with a peculiar constancy, and often first attract attention to the existence of a diathesis of which they are the sole pathological expression. 3. That females are attacked more frequently than males; thus, out of sixty-nine cases of pharyngeal ulceration, forty-one occurred in the former sex. 4. That ulceration may occur in any situation; but its most frequent seat is the palate, for which it exhibits the closest elective affinity. 5. That when situated at the posterior portion of the hard palate, the tendency is to involve the soft palate and velum, and thence to invade the naso-pharynx and nose; while, situated more anteriorly, it seeks a more direct pathway to the latter, which is established by perforation of the bone. 6. That the next most common seats of ulceration in order of frequency are the fauces, naso-pharynx, posterior pharyngeal wall, nasal fossa and septum, tongue and gums. 7. That ulceration, especially that of the palate, shows a disposition to centrality of position, together with a special tendency to caries and necrosis of the bone, a fact probably explicable by the great vascularity of the periosteum and medullary membrane in youth. 8. That the tendency to necrosis exists at all periods of life, but especially in early youth, when it is more destructive and less amenable to treatment. 9. That while deep pharyngeal ulceration generally precedes or coexists with similar affections of the larynx, the latter occurs, too, without evidence of preexisting pharyngeal lesions. 10. That laryngeal ulceration does not commonly follow the pharyngeal destruction of so-called latent syphilis, those palato-pharyngeal ulcerations found in tardy congenital syphilis having little tendency to invasion of the larynx, but rather to implication of the nasal pharynx and nose. 11. That simultaneous or consecutive ulceration of the palate, pharynx, and nose seems to be characteristic of syphilis, or at least occurs more frequently in this than in any other disease. The doctor thinks there is no just ground for belief in an ulcerative scrofulide of the throat. A clinical study of a number of cases disclosed certain striking facts in connection with the influence of some of the ordinary infectious diseases of childhood upon the progress of the inherited syphilitic affection. 1. While congenital syphilis affords no absolute protection against certain acute infectious diseases, its existence in the individual seems often —other things being equal—to mitigate their severity and exert a favorable influence on their course. 2. Certain acute diseases, accompanied by an exanthem, favor the dissipation, at least temporarily, of the throat and other manifestations of the disease. 3. While at no period of the disease is the child exempt from these affections, they are more liable to be contracted during the period of latency—that curious interval of apparent health in congenital syphilis which Cazenave has poetically called the sleep of the virus.

Northrup: General Tuberculosis; Rupture into Trachea of Broken-Down Glands; Obstruction of Right Bronchus; Asphyxia. (*Med. Record*, May 31.)

Dr. W. P. Northrup presented specimens before the New York Pathological Society taken from a girl aged two years and ten months. She had measles and scarlatina a year ago, and had always been a delicate child. She was in her usual health until five hours before death. After breakfast the child was taken with a sudden severe "fit of strangling," followed by violent cough, and that followed by severe dyspnea and cyanosis. Emetics were given, but did not act. She grew worse and worse, and died asphyxiated five hours from the first attack. Upon auscultation posteriorly, no air could be heard entering either lung. Autopsy: On opening the thorax the right lung was found distended to its utmost, and did not retract. Distended alveoli were distinctly seen at the surface. The left retracted promptly the instant the pleura of that side was tapped; no adhesions over either lung. At the bifurcation and along the posterior and right sides of the trachea was found a mass of enlarged agglutinated glands. On opening into this mass, a large amount of cheesy material, the size of an ordinary large hickory-nut, was rolled out of its bed. On opening the trachea, an aperture was found just above, and to the right of, the bifurcation, the size of an old-fashioned silver three-cent piece, and communicating with the cavity in the broken-down glands. In the right bronchus there was a plug of cheesy material and tenacious mucus tightly filling it. On grasping the plug and gently moving it from side to side, air escaped from beside the plug in bubbles and with some noise. Piece by piece the plug was removed, each time with the escape of some air, and the lung collapsed. Miliary tubercles in moderate numbers were scattered over both lungs. A few small miliary tubercles were found in and upon the surface of the liver. The spleen was thickly studded with tubercles, rather larger, and opaque in appearance.

Remarks.—The Dead Book of the New York Foundling Asylum has records of several cases in which enlarged bronchial glands have given rise to marked physical signs. The most common of these is persistent cough, often paroxysmal in character. Such symptoms are frequently observed in poorly-nourished children, the subjects of numerous attacks of bronchitis or broncho-pneumonia. In one case there was well-marked asthma, due to pressure upon the bronchi. The present case is one of general tuberculosis and rachitis, in which the broken-down bronchial glands ulcerated into the trachea, plugged the right bronchus, and caused death from asphyxia.

Bergesio: Diabetes Mellitus in Early Infancy. (*Rev. Mens. etc.* [from resumé in *Archiv. di Patol. Inf.*, May, 1884], June, 1884.)

This disease, though rare in the period of infancy, is nevertheless an occasional occurrence, as attested by Gerhardt, Bouchardat, Bouchut, and other competent observers. Its pathology has been recently enunciated for the first time in Italy by the author of this paper, in connection with a case which he has recorded. He thinks that the pathology of this disease in children should preserve the distinction between essential and symptomatic diabetes mellitus. The essential form is very infrequent among children, because its causes act little or not at all during childhood. On the other hand, the disease is often consecutive to other pathological processes, especially to hydrocephalus, to cerebral traumatisms, to heredity, and to dysentery. The disease among children is more frequent among females than among males, owing, as the author thinks, to their greater vulnerability. As to symptomatology and anatomy, the same statements apply equally to children and to adults. The analysis of the urine furnishes the principal means for diagnosis. As to prognosis, it is favorable in inverse ratio to the age, very young children being sometimes unable to undergo the reparative process. The time during which the disease is developing varies between three weeks and two months. The treatment may be more radical than is usually possible with adults, because of our ability to entirely exclude farinaceous foods. Some of the preparations which are favorably mentioned on account of their curative influence are the wine of quinquina, hydrochloric acid (Bouchut), alkalies, either in powder or in liquid solution (Gerhardt, Guèsinger, Von Altenbrenner), sulphate of iron (Heine), opium and its alkaloids (Rollo, Franck, and Tommasini), glycerine, and cod-liver oil. Antidiabetic diet can be modified, but the author prefers a milk diet for patients under two years of age. After weaning they may receive soup with yolk of egg, and certain vegetables and fruits, as cabbage, cherries, strawberries, almonds, etc.

Pruritus Ani. (*Jour. de Médecine de Paris,* May 18, 1884.) This troublesome affection may be caused by eating spiced food (especially if it contains capsicum), game, lobsters, and other kinds of shell-fish. It sometimes comes without apparent cause in those who are of the gouty diathesis. In children it is most frequently an indication of intestinal worms; and in women, of uterine difficulty. Sometimes it may be allayed simply by discontinuing an objectionable article of diet, but in people of an arthritic or nervous tendency this plan will usually be insufficient. As means for local treatment may be mentioned zinc lotion, milk of bitter almonds, and infusion of tobacco, or a mixture consisting of one dram of hydrocyanic acid and eight ounces of water, iced water, or very hot water, etc. Tar ointment is recommended for very rebellious cases, or ointments in which subacetate of lead, oxide of zinc, nitrate or bichloride of mercury is the active agent. Sometimes it will be necessary to experiment with several preparations, for that which will be effective in one case will not necessarily be in another. If the trouble has become chronic, the skin around the anus is very apt to become thickened and fissured. In such cases it is well to keep the parts covered with a piece of linen moistened with a strong solution of nitrate of silver, or with oil of cade. Simple pruritus or itching, unaccompanied at the outset with an eruption, must not be confounded with *prurigo*, a dermatosis which is equally rebellious to treatment, which is characterized by a papular eruption accompanied with violent itching, and which calls for similar treatment with pruritus.

Riegel: Hysterical Affections in Children. (*Arch. f. Kinderh.* [from *Ztsch. f. Klin. Med.*, B. VI., H. 5], B. V., H. 7 and 8.)

Five cases of hysterical affections in children are narrated, three of which occurred in boys from ten to fifteen years of age, and were *sequelæ* of other diseases. The difficulty in these cases was in respect to the use of the lower extremities. The patients could not walk, bent the knees together as soon as they were placed upon their feet, and yet no disease was discoverable. In one of them there were regularly recurring clonic convulsions. The other two cases were in girls, eight and fourteen years of age. The first was suddenly attacked with violent pains in the extremities, inability to walk, and soon afterward with almost complete loss of power of motion. There were also marked hyperesthesia, pain in the vertebra, and trembling. She required feeding on account of deficient power of motion in the upper extremities. In the remaining case there were paralysis, convulsions, contractures, disturbances of speech and of the intestinal functions, anesthesia, vaso-motor disturbances, and psychical anomalies. The treatment of these cases showed the value of hospital attention, chiefly in removal from the influence of sympathizing friends. Psychical treatment and the use of the faradic current cured all the cases in a few days.

Dauchez: Generalized Eruptions of a Vaccinal Character, together with Certain Dermatoses Provoked by Vaccination. (*Arch. de Tocol.*, March, 1884.)

The author has given in his paper the result of a large series of investigations bearing upon this subject. The resemblance which these cutaneous phenomena bear to the eruptive fevers is often a cause of no little anxiety to the friends of the affected ones. The plan of the paper is a division into three chapters, the first being descriptive of the nature and history of generalized eruptions which result from vaccination, with the results which have been furnished by inoculation experiments. In the second chapter it is shown that the method of extension of a vaccinal eruption beyond the points of inoculation varies in different cases, and we may find ten to fifteen pustules upon each arm with appearances like those which are at the seat of inoculation. The author thinks the unusual development is due to the rapid internal propagation of the vaccine virus, the additional pustules appearing as a kind of effervescence. The general condition does not seem to be affected by the increased eruption. The other form of eruption which is referred to is called vaccinal roseola, or vaccinal rash, and this resembles the eruption of the fevers. Of the dermatoses which may be excited by vaccination he mentions malaria, pemphigus, eczema, and purpura. It is the occasional eruptions of this charter which have brought vaccination into discredit with some, notwithstanding the fact that such accidents are entirely exceptional.

Pelizæus: Concerning the Knee-Phenomenon in Children. (*Arch. f. Kinderh.* [from *Arch. f. Psych. u. Nerv.*, B. XIV., H. 2], B. V., H. 7 and 8.)

The author examined 2403 boys in the Berlin public schools, between the ages of six and thirteen years, with reference to the presence of the so-called knee-phenomenon. Its complete absence was a very rare occurrence—indeed, reflex movements were entirely wanting in the case of only one boy. In a second case, the patellar reflex was not obtained at the first examination, which was made six weeks after a severe attack of diphtheria, but three months later it was obtained in this case, which led to the conclusion that the diphtheritic process was the cause of the abnormality. In four cases it was absent on certain days; on others it was moderately perceptible; on still others it was plainly manifest. The cause of this singular condition cannot be given.

Vaccination. (*Le Concours Medical*, May 17, 1884.)

Vaccination is obligatory in Portugal, and this obligation is associated with a penalty of fifty francs, chargeable to a teacher or governor who does not present for vaccination all the children who are entrusted to his care. Persons who have been vaccinated are liable to a fine of double that sum if they do not put in an appearance before the vaccinator eight days after the operation to allow him to decide as to the result. The editor of *Le Concours* remarks that the president of the anti-vaccination league has not, as yet, made much headway upon the banks of the Tagus.

Lees: A Form of Diarrhea in Children. (*Lancet*, May 10.)

Dr. Lees, in a paper read before the Harveian Society, calls attention to a class of cases in which the main symptom is an irresistible impulse to defecation almost as soon as food is taken; pain may or may not be present; there are no symptoms of dyspepsia. The passages are usually semi-solid, not watery or slimy, and frequently contain undigested food; usually a passage after each meal and one or two more in the twenty-four hours. The explanation given is that of increased peristalsis without increase of secretion. It is probably due to irritation of the vagus. The close connection of the nucleus of the vagus with that of the fifth nerve, suggests that probably dentition may sometimes be a reflex cause. Astringents had always failed signally in the treatment, but remedies directed to the neurotic origin, such as opium and especially the bromides, had always given prompt relief.

Dreschfield: Congenital Tubercular Testis. (*Brit. Med. Jour.*, May 3.)

Dr. Dreschfield exhibited to the Manchester Medical Society sections of a testicle which presented to the naked eye the usual changes of scrofulous disease. Microscopically the caseous portions showed numerous tubercle bacilli. A tumor had been noticed in the testis at birth; its removal was proposed, but not allowed. The child had died of marasmus at six months. No further autopsy was permitted.

Ashby: Micrococci in Scarlatinal Kidneys. (*Brit. Med. Jour.*, May 3.)

H. Ashby, M.D., showed to the Manchester Medical Society sections of the kidneys from a scarlatinal patient, in which death had occurred at the end of the second week. Emboli laden with micrococci were seen in the capillaries of the glomerali and the intertubular plexus.

Shattock: A Biloculate Heart. (*Brit. Med. Jour.*, May 24.)

Mr. S. G. Shattock exhibited before the Society a biloculate heart taken from a new-born infant. The superior and inferior venæ cavæ were normally disposed, but the pulmonary veins were confluent on the back of the auricle, without communicating with it. It was surmised that the blood from the lungs had been returned through the bronchial or post-mediastinal veins, communication between which and the pulmonary veins had been shown to exist by Zuckardt. The condition tallied with the fact that the pulmonary system of veins is found independently in the lungs.

Briscoe: Hypertrophy of Heart; Obliteration of Pericardial Cavity. (*Lancet*, May 17.)

Mr. J. F. Briscoe relates that a girl, aged twelve years, had suffered four weeks previous to observation from precordial distress, slight cough, and a peculiar feeling in the extremities. No history of joint-trouble or rheumatism, although three other children of the family had had "rheumatic fever." Pulse, 140; respiration, 70; temperature, 103°. Examination: Well-nourished; heart enlarged, mitral and aortic bruit; lips blue; no anasarca; urine dark, but normal. Death on the fifth day. Autopsy: Pericardial cavity obliterated; heart hypertrophied; vegetations on mitral and aortic valves; kidneys large and healthy; some fluid in the abdominal cavity.

Ballance: Acute Inflammation of the Occipito-Atloid Articulation. (*Lancet*, May 17.)

C. A. Ballance, M.S., mentions a boy, six years of age, ill-nourished and anemic, who four days previously had returned from school complaining of pain in the neck, and keeping his head stiff. Pressure upon the vertex and attempts at rotation caused great pain; tenderness and swelling were marked over the occipito-atloid joint; nothing abnormal could be detected in the pharynx; he was comfortable when his head was extended over the spinal column, either allowing it to hang over a pillow when in bed, or, when sitting, bending forward so as to place it between his knees. There was not any history of injury, or tubercle, or joint-disease; he had never been ill before; temperature, 100.5°. The head was supported by splints, which gave relief, but they had to be removed in two days on account of tenderness of the skin. Ordered quinine and morphia. On the sixth day, the swelling in the neck being very great, an incision was made on either side down to the transverse processes of the atlas; no pus, but a quantity of serum drained away; temperature about 103°. Soon signs of effusion appeared in the left elbow-joint, below the breasts, in the right axilla, and at several points on the back. At this period he was semi-comatose. He died on the fifteenth day. Autopsy: The occipito-atloid joint was full of pus; the articular cartilage had almost disappeared; the bone which was exposed was carious; medulla and membranes normal. Pus was found in all the swellings mentioned above; pyemic abscesses in the lungs, other organs healthy.

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3. SURGERY.

Launois: Diagnosis of Tumors of the Iliac Fossa in Children. (*Rev. Mens. des Mal. de l'Enf.*, June, 1884.)

In general terms, it is not a difficult matter to recognize the presence of a tumor in the iliac fossa in a child. The cavity is normally less pronounced in children than in adults, and the abdominal walls are less resisting. The differential diagnosis is more difficult, especially when we consider the frequency of coxalgia in children, and the liability of overlooking it or failing to recognize its results. The first variety which is mentioned is iliac adenitis, the deep lymphatic glands suffering enlargement as well as, and sometimes simultaneously with, the neighboring inguinal ones. Deep and careful palpation should be made for this development, the patient's thighs being flexed and the mouth open. The tumors will be found in one or both fossæ as hard bodies, somewhat movable, and separable from one another. In some cases the feel of the tumors is soft instead of hard. If periadenitis also be present, the isolation of the individual glands will be more difficult, perhaps impossible. The results attending this development may be constipation, and pain and edema from pressure upon the contiguous nerves and vessels. The hardness usually lasts a long time, and may terminate by suppuration, with more or fewer fistulous openings into the inguinal region. Only general treatment is advised. Osteosarcoma is found among children from ten to sixteen years of age, rarely among those of a younger period. The presence of such a growth causes acute and persistent pain, motion on the affected side being impossible. Digital examination will produce a kind of crepitation, and sometimes pulsation, or something analogous to it can be made out. The tumor is incorporated with the iliac bone, and is of varying thickness, comparison being made, of course, with the healthy bone of the opposite side. These signs, together with the increased vascularity of the skin over the diseased bone, are thought to be sufficient for diagnostic purposes. The symptoms which are incident to compression, sciatica, edema, constipation, retention of urine, etc., are present, and death is the almost invariable result. Enchondroma is another variety, which appears at about the period of puberty, and may attain considerable size. It is hard at first, but as it becomes larger it may become soft at certain points, its surface being uneven. It may be pediculated and susceptible of removal, as in a case which is reported by the author. Fibroma is quite rare, and is not described in particular. Other forms which are occasionally seen are fecal tumor, the swelling of typhlitis and perityphlitis, and that of entero-mesenteric tuberculosis. Osteomyelitis is indicated by the presence of fistulæ, the elimination of pieces of dead bone, and the perception of the process of necrosis with the examining probe. In all cases, it may be necessary to examine carefully the coxo-femoral joint, compare the size of the iliac bones on either side, and ascertain as to the degree of pain produced by percussion over the great trochanter, the sole of the foot, and the extended leg. The movement of the limb in abduction should be particularly studied, and in many cases it will be found necessary to make a careful examination under anesthesia.

Fürth: Hemorrhage from the Navel. (*Arch. f. Kinderh.*, B. V., H. 7 and 8.)

This accident is a very rare one. The author saw only thirteen cases among 50,000 infants at the Vienna foundling asylum, in a service of four years. Vogel reports one case among 10,000 children whom he saw. Baginsky has seen the condition in only two cases. Ritter reports 132 cases, ninety-seven of them being uncomplicated, and the remainder complicated with hemorrhage from other organs. Weiss reports that it occurred thirty-one times in one year, among 742 foundling infants at the foundling hospital in Prague. Grandidier has collected 202 cases from all the literature of the subject. As to the causes of this accident (simple uncomplicated hemorrhage being presupposed), little that is definite can be said. Most authors suggest a deficiency of fibrin in the blood, or incomplete ligation of the navel-string, but either of these is thought to be improbable in most cases (by the author). Buhl considers that umbilical hemorrhage is one of the phenomena which attends acute fatty degeneration. Jaundice, hemophilia, and scorbutus are also regarded by some as causative factors, but their evidence seems insufficient. Scrofula, syphilis, tuberculosis, and an hydremic condition of the blood in the mother, are all possible factors in the development of this condition, but it is by no means certain that they are sufficient factors. The hemorrhage usually occurs in the form of a sweat, drops oozing from the end of the navel stump, the exact source of which may be difficult or impossible to determine. When the child cries or coughs the blood is apt to come away more freely, as from a sponge, and it seems to flow more abundantly early in the morning. It may appear alone or associated with colic, diarrhea, cough, or other common infantile disturbances. Most of the reported cases have occurred between the fifth and tenth days after birth, and have usually ended fatally, either from the immediate effects of the loss of blood, or from anemia and its consequences which have followed. The hemorrhage may last for an hour or two, or it may continue for days or weeks. Nothing unusual in the way of treatment is suggested. Of course, if anything remains which can be tied it should be tied, otherwise there is the choice between the actual cautery and the various fluid hemostatics, with a judicious application of pressure.

Corsell: Fracture of the Frontal Bone (Multiple); Meningitis. (*Brit. Med. Jour.*, May 17.)

A boy aged nine years was run over by a cab. Soon afterward he vomited three times, bringing up two pints of blood. There were ecchymoses beneath both conjunctivæ, subcutaneous extravasation in temporal regions; both nasal bones were loose and crepitant. No blood or discharge from ears. Tongue protruded straight. Ankle clonus and knee reflex absent. Feces and urine passed involuntarily. Right angle of mouth drawn slightly downward. Occasional spasm of extremities, especially right upper. No paralysis. Chest normal as far as examined, *i. e.*, anteriorly. In a few days separation of the frontal bone through its suture was recognized. On the sixth he spoke monosyllables, but did not recognize any one. Pupils normal and react. Ninth day, very drowsy; fourteenth day, purulent discharge from eyes; tongue tremulous when protruded. Temperature, 103.8°; pulse, 104. Slight ankle clonus. Urine 1024, acid. No albumen. Fifteenth day, pus runs from right nostril. Spasmodic movements, principally of right side. Ankle clonus well marked on both sides. Seventeenth day, unconscious; Cheyne-Stokes respiration; flexors of hands contracted; rigidity of right lower extremity. Eighteen day, death. Temperature, 108°. Autopsy: Fracture of frontal bone through roof of orbit for three inches on left side, and to a less extent on right. Nasal and ethmoid bones fractured. Pus in both orbits. Bone of brain covered with sero-purulent exudation, causing adhesion. The right half of the pons was covered more than the left. The medulla was thickly covered. The entire cord also was pretty uniformly coated. On section the brain appeared healthy. Remarks: The ankle clonus, ascribed to sclerosis of the lateral columns, was here apparently due to extension of inflammation to the surface of the lateral columns. The fact of the right-sided spasms being more pronounced than the left is accounted for by there being more pus on that side of the pons.

Cameron: Wound of the Superior Longitudinal Sinus. Phlebotomy, the Superior Longitudinal Sinus being the Site. (*Lancet*, May 24.)

Dr. H. C. Cameron quotes these cases from Percival Potts' "Injuries of the Head from External Violence," to show the ease with which hemorrhage from the superior longitudinal sinus can be arrested. Case 1. "A boy eight years of age received a blow upon his head with a ruler. Sometime afterward a walnut-sized tumor, fluctuating and feebly pulsating, was discovered at the site of the blow. The contents of the tumor were evacuated, but still blood flowed, which was seen to come up alongside of a fragment of bone which had penetrated the sinus. After three trephinings it was picked out with forceps, and the flow of blood permanently arrested by a pledget of lint." Case 2. "A girl, sixteen years of age, was struck on the head with an iron poker. A compound fracture of the skull was the result; patient rendered comatose. The fragments, when removed, laid bare the superior longitudinal sinus for two inches. No blood followed. She was bled twice a day for two days, but still remaining comatose. The sinus was opened and blood allowed to flow until she became pale. A piece of lint was put on the wound and digital pressure made for a short time, which permanently arrested it. The same afternoon she moved her arms, and in the morning was conscious, but died on the seventeenth with fever and delirium." Dr. C. refers also to two other cases of wound of the superior longitudinal sinus in the "Memoirs of the French Academy of Medicine," translated by the Sydenham Society (1848), in which slight pressure was equally efficacious.

Heath: Cancrum Oris. (*Med. Times and Gazette*, May 17.)

A boy twelve years of age, a week before, had noticed a blackish lump on the right side of the mouth close to the bicuspid tooth. He did not know any cause for it. On admission to hospital, the gums on the right side of the jaw were spongy, ulcerated, and, opposite the first molar tooth, gangrenous. Strong nitric acid was applied under chloroform. By the eighth day the gangrene had spread to the root of the tongue. The parts were scraped with the sharp spoon and touched with the actual cautery. The blood was microscopically examined, and both kinds of corpuscles found diminished in number, but no organisms. Death took place on the nineteenth day. Autopsy: The right cheek gangrenous, and the body of the inferior maxilla denuded as far as the angle. The pleura of the right side showed some petechiæ, and both contained more fluid than normal. The visceral layer of the pericardium contained petechiæ. Endocardium normal. Heart-muscles pale. Lungs show broncho-pneumonic patches here and there. Spleen slightly enlarged. Liver large, normal. Kidneys pale. Petechiæ beneath capsule. Cæcum shows two small ulcers. Brain, petechiæ in the dura mater; blood effused over the frontal convolutions.

Pemberton: Metallic Buckle Impacted in Larynx. Death Twelve Months Afterwards. (*Lancet*, May 24).

A girl, aged seven years, swallowed a portion of an iron buckle. She was immediately seized with choking and difficulty in breathing, but was able to swallow. She was seen by a physician in half an hour, but no attempt was made to remove the foreign body. She recovered from the above symptoms and was apparently as well as ever, except that she was occasionally hoarse and was becoming emaciated. Eleven months afterward she was seen by Mr. P. Appearance that of emaciation; voice occasionally slightly hoarse; larynx not tender, laryngoscopic examination negative; examination of lungs negative. An operation was not considered warranted. She was kept under observation for two weeks, and then sent home. Soon afterward she over-eat, and violent vomiting ensued, during which she suddenly became breathless and died. The autopsy showed the transverse bar and attached prongs of a buckle extending from the upper border of the cricoid cartilage to the lower border of the third tracheal ring. The bar measured one inch in length, and each prong nearly half an inch. Mr. P. mentions five cases in which an operation was successful, and regrets his not having operated.

Cerné: Fistula in Ano in a New-Born Infant. (*Jour. de Méd. de Paris*, May 17, 1884.)

The child was delivered before the author's arrival, but artificial respiration was required before its lungs could be made to act satisfactorily. For three weeks it progressed well, but at the end of that time digestive troubles made their appearance in the shape of diarrhea, colic, and vomiting. A swelling appeared in the vicinity of the anus, which was soon followed by a discharge of pus from the anal orifice. The stools being normal, the author supposed that there had been inflammation in a cutaneous gland adjoining the anus. Some days later the discharge stopped, after which new digestive disturbances appeared, and then a second abscess upon the side opposite to the first. Three fistulous openings eventually appeared, the digestive troubles continued, and foul-smelling gas escaped from the anus. A soft rubber sound (No. 17) was introduced into the rectum, and just inside the sphincter ani there was evidence of incomplete contraction of the bowel. The treatment consisted in washing the parts each day with a solution of mallows, and in introducing the sound (No. 17 Fr.) to the extent of five centimeters. Temporary improvement followed, but a larger sound (No. 20) was required before the tissues were sufficiently stimulated to heal entirely. No operation was required.

Donkin: Intestinal Obstruction Due to Peritonitis from Perforation of the Vermiform Appendix. (*London Med. Times*, May 10.)

H. B. Donkin, F.R.C.P., reports the case of a boy of thirteen, in good health, who was suddenly seized, soon after playing football, with abdominal pain and vomiting.

He was admitted to the hospital on the fifth day after, in a condition of extreme prostration, intense abdominal pains, tenderness, tympanitic percussion, except in the right iliac fossa, where it was dull. The vomiting had not continued. Vomiting came on that evening, and the next day became fecal. Three quarts of water were injected into the bowel, and only a few hard masses of feces came away. Fecal vomiting persisting, abdominal incision was made the next day below the umbilicus, in the median line. The large intestine was distended, and a portion of it bound down by adhesion to the left iliac fossa; this yielded readily. Some pus with a fecal odor was found in the peritoneum, which was believed to point to perforation. The wound was closed without any further exploration. Death occurred fifteen hours after. The autopsy showed extensive general peritonitis; perforation of the vermiform appendix, caused by a sort of calculus, probably a fecal concretion; and lastly, a narrowing of the small intestine, apparently congenital, five and a half feet above the cæcal valve. It measured here only one inch in circumference. The obstruction was produced, it seemed, by the effused lymph matting together the congenitally-narrowed portion of the gut.

Park: Sarcoma Enveloping the Heart. (*Lancet*, May 17.)

Dr. Park reports the case of a girl, aged seven years, who had suffered for eight months previously with labored respiration, which gradually became so distressing that orthopnea resulted. She also had paroxysmal attacks of angina. Examination: Pulse 150, respiration 40, temperature 98.8°; on the left side of the chest there was a reddish protuberance with varicose veins running over it; dulness all over the left chest. The first sound of the heart was feeble, the second inaudible. The dyspnea continued, with occasional attacks of angina, until, about a month from the time she came under observation, an unusually severe attack left her so exhausted that death resulted. Autopsy: The heart was surrounded by a growth two inches in thickness, of a yellowish color, and firm consistence. The large vessels had been compressed by the growth. The mass extended some distance down the spinal column; its origin was difficult to trace, but it was supposed to have begun in the thymus gland. Microscopic examination showed it to be a round-cell sarcoma.

Boutflower: Excision of Knee-Joint for Anchylosis; Recovery; Movable Joint. (*Lancet*, May 17.)

A. Boutflower, M.R.C.S., relates that a boy, seven years of age, thin, anemic, and of a strumous type, was unable to put his right foot to the ground on account of anchylosis with flexion at the knee. The joint was painful, thickened, and showed all the signs of "pulpy" disease, following a strumous affection. The patella, the ends of the femur, tibia, and fibula were removed, the synovial membrane scraped with a sharp spoon, the surface washed with a solution of zinc chloride—grs. iv. ad aquam ℥i.—a drainage-tube inserted, and the incision united by sutures. Operation strictly Listerian. Four dressings were required, the wound being quite healed by the fourteenth day. Highest temperature, 99.9°. On the twenty-first day the limb was put in a plaster splint. Two months afterward he could bear his weight upon it, flex the leg to an angle of 100°, and run across the ward.

McGill: Osteotomy for Genu-Valgum Wound of Popliteal Artery; Recovery. (*Lancet*, May 17.)

Mr. McGill relates the case of a boy, seven years of age, who was afflicted with genu-valgum, so that when the knees were in apposition the internal malleoli were eight inches apart. The left leg was first operated upon by MacEwen's method. After the partial division of the bone by the chisel an unusual quantity of blood made its escape. At the end of three hours the hemorrhage and other signs were such as to raise suspicion of the wounding of the popliteal artery. The artery was exposed, and found completely divided; each end was ligated with catgut. Two months afterward, the wound being healed, the other knee was operated upon. All the operations were done with Listerian precautions. Five months afterward he was seen running around, the left leg nearly straight, the right perfectly so.

Marsh: Thermo-Tracheotomy. (*Lancet*, May 10.)

Mr. Frank Marsh reports a case in which this operation was done in a six-year-old child for diphtheria. The neck was short and thick and veins much engorged. Great difficulty was found in recognizing the trachea among the seared parts. The scalpel was finally required to open it. On the third day the parts surrounding became much swollen, and on the fifth day a severe secondary hemorrhage took place from the right inferior thyroid artery being involved in an eschor which separated. The hemorrhage was finally controlled by pressure and Mansel's solution, but not until a considerable quantity of blood had passed into the trachea. Great dyspnea came on, from which the child died two hours afterward. The author's experience leads him to speak strongly against this method of operating.

Gore: Congenital Epulis. (*Brit. Med. Jour.*, April 5.)

A. A. Gore, M.D., furnishes the annexed: Immediately after delivery it was noticed that the infant's mouth was filled by a tumor, which projected between the lips, and was firmly adherent to the lower gum, just to the right of the median line. It precluded all efforts at nursing, but not swallowing. Three days later a needle armed with a double ligature was passed through the mass, and it was tied on either side. The ligature came away in two days. A second smaller growth was treated in the same way ten days afterward. Considerable hemorrhage occurred when this came away, but it was checked, and the child made a perfect recovery.

Marsh: Remarks on Osteotomy and Hemorrhage. *Brit. Med. Jour.*, April 5.)

Mr. Howard Marsh reports a case where MacEwen's operation was done for the relief of knock-knee of an extreme degree. The incision was made halfway between the tendon of the adductor magnus and a line drawn upward from the inner border of the patella, one and a half inches above that bone. A somewhat free hemorrhage occurred at the time of the operation, but soon ceased. The bone gave way readily. That evening a profuse hemorrhage occurred, and it was thought at first to come from the popliteal artery. On enlarging the wound, the blood was seen to come from the anastomotica magna, in the side of which an oval opening had been made. The vessel was easily secured, and the case made a good recovery. This was the second case which had come to his knowledge in a week.

Morgan: Cerebellum Punctured through the Occipito-Atloid Articulation. (*Med. Times and Gazette*, May 24.)

A child fell on the stairs at a moment when it had a knitting-needle in its mouth. The needle was driven through the palate and occipito-atloid joint into the cerebellum. It was at once abstracted, but the child died in twenty-four hours.

THE

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Original Communications.

THE HYGIENIC MANAGEMENT OF THE SUMMER DIARRHEA OF INFANTS.

BY J. LEWIS SMITH, M.D.,

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MY paper on the above subject, in the July number of the ARCHIVES, related chiefly to the diet of infants affected with the summer diarrhea. A more extended observation of the use of peptonized milk, during the present hot term, has shown that it can be conveniently given mixed with farinaceous food, when both ingredients are properly prepared, and in some instances the result seems to be rendered better by the admixture than when the two are used separately. The formula given for peptonizing milk is apparently improved, for infants under the age of three or four months, by adding more water. The Sisters in the New York Foundling Asylum, who are close observers and have ample opportunities for observation, now prepare the milk for infants under the age of three months with an equal quantity of water, a change from the published formula, which they have made through their own observations, and not by professional advice. Professor Leeds, of Stevens' Institute, who is probably more competent to express an opinion in infant dietetics from a chemical standpoint than any other scientist in America, since he has made more analyses of human and animal milk and of the many infant foods than any other chemist, recommended the following formula in his very instructive remarks made before the New York County Medical Association, July 16th. In order that no mistake might be made, I wrote to him for this formula, which he kindly sent me. The following is an extract from his letter:

"The formula which I ventured to suggest for the preparation of humanized cow's milk was as follows:

"1 gill of cow's milk, fresh and unskimmed.
1 gill of water.
2 table-spoonfuls of rich cream.
200 grains of milk sugar.
1¼ grains of extractum pancreatis.
4 grains of sodium bicarbonate.

"Put this in a nursing-bottle, place the bottle in water made so warm that the whole hand cannot be held in it without pain longer than one minute. Keep the milk at this temperature for exactly twenty minutes. The milk should be prepared just before using."

The object is, of course, to provide from cow's milk a food which will be the nearest possible approximation to healthy human milk, and this appears to be achieved by the peptonizing process. Certainly, what physicians have long been desiring, namely, some mode of preparing cow's milk so that its casein will coagulate in flakes, like that of human milk, has been obtained by peptonizing.

It is a common error to expect too much of any new remedy which has a real value, and we must not expect that all patients not in an utterly hopeless state will begin to improve as soon as peptonized milk is prepared for them, or that it is a full and exact substitute for human milk, so that the use of wet-nurses may in every instance be dispensed with. Healthy human milk must still be preferred when it can be obtained, but we claim for peptonized milk that it is a most useful addition to the dietetic preparations for infants, probably surpassing in value the best of those in the shops. We welcome it as affording important aid in controlling the annually-recurring epidemic of the cities, which, in New York alone, brings mourning into more than three thousand families every summer.

Although I have not recommended any of the proprietary infant foods, it cannot be denied that some of them have been useful in times gone by. Many mothers tell us that Nestle's food has benefited their infants, or that their infants have thriven for a time on Ridge's food or the Imperial granum, with their seventy per cent. of starch. No one can appreciate more fully than I those crowning labors in the busy life of Baron Liebig, who made his scientific knowledge available for the good of humanity by the preparation of a food in which the starch is converted into glucose, and this food, whether prepared by Hawley, Horlick, or Mellin, has been useful to many a suffering infant; but now that good milk can be obtained in our cities through the vigilance of Health Boards, and the conversion of starch into glucose can be readily effected in the sick chamber, with the advantage of freshness of material, it seems to me that we have reached a position in which we can take the attitude of the German Conference, and discard the patented foods. Let me illustrate by a case which I have now under observation. A delicate infant, having just entered its second year, and bottle-fed, began to have diarrhea with vomiting in the middle of July. Peptonized milk was recommended, mixed with an equal quantity of barley-gruel, to a small tea-cupful of which a half tea-spoonful of malt had been added. Although the proportion of barley-flour to water was a heaped tea-spoonful to six table-spoonfuls, and the gruel was nearly like a paste, yet when the malt was mixed with it, and the starch converted into sugar, it became so thin that, on the addition of the milk, it could be used in the nursing-bottle. The result has been favorable. The farinaceous food thus prepared seemed to possess all the advantages of the more costly preparations made by Liebig's formula.

In order to treat successfully a case of the summer diarrhea, many details in the hygienic management should be personally supervised by the attending physician. Inexperienced and careless mothers or nurses will sometimes thwart the best efforts of the physician, as, by giving milk that has begun to sour, or food from the table which is indigestible and proper only for older children. Since errors in diet are an important factor in producing this disease, they also tend to perpetuate and aggravate it. The summer diarrhea of infants is an intestinal catarrh, its worst form, cholera infantum, being one of the most violent inflammations to which infancy is liable, and the digestive function is so feebly performed, and so readily disturbed by improper food, leading to an aggravation of the malady, that strict and positive directions should be given in reference to the feeding. The thirst, especially when the disease is acute, is intense. It has already been stated that the patient, if permitted, will often take with avidity more nutriment than it requires, to relieve the thirst, and will fret for more when the bottle or breast is withdrawn. The cause of this fretfulness should be understood, and should be explained to the nurse, that the proper remedy may be used, else she will probably overfeed the infant in order to keep it quiet. The ice-water, which I have recommended in a preceding page as the proper remedy for this fretfulness from thirst, should be given in small quantity and often, and it should contain a small amount of whisky or brandy. A rule with me is to allow from two to three drops of the stimulant for each month in the age, every second or third hour. The avidity for drinks may be utilized in various ways. I have many times induced the infant to take the breast, when it was weaning itself, by allowing a little water to trickle from the nipple into its mouth, or by placing a piece of ice at the base of the nipple, so that the drops, as it melts, flow into the mouth. Water judiciously given does not seem to aggravate the disease, and it has a very tranquilizing effect, and will aid in procuring sleep.

The temperature should be taken at each visit of the physician. In severe acute attacks it frequently rises to 103°, and in that most rapid and dangerous of all the forms of the summer diarrhea, cholera infantum, it commonly rises to 105° or 106°. Physicians need not be reminded how quickly the strength of the infant becomes exhausted by a high temperature and diarrhea. I strongly recommend to my families the application of a cloth wrung out of ice-water, or an India-rubber bag containing ice-water to the head, if the disease be in its early stage and the temperature at or above 103°. Alcohol may be added to the water, so as to overcome the popular objection to the use of cold externally. Cold to the head, and cold sponging of other parts, when they are hot, tend, when the patient becomes accustomed to them, to relieve the restlessness, and add materially to its comfort. In midsummer, when the atmospheric heat is greatest, we are sometimes summoned to cases which begin suddenly with high fever, jactation, great restlessness or drowsiness, and intense heat of the head. The use of cold externally is imperatively demanded in the treatment of such attacks. Some of them are so severe, and begin so suddenly, that they have been supposed to be cases of thermic fever or sunstroke, for diarrhea sometimes occurs in sunstroke. In this violent form of the summer complaint, attended as it is by dangerous cerebral symptoms, the speedy reduction of the high temperature by ice to the head is a matter of the first importance, together with sponging of the extremities, if their temperature be much above normal.

Since Drs. Gooch, Abercrombie, and Marshall Hall wrote upon spurious hydrocephalus, or the hydrocephaloid disease, half a century ago, it is well known that this cerebral affection more frequently supervenes on the diarrheal maladies of infancy than on any other pathological state. Spurious hydrocephalus is due, as these authors state, partly to exhausted innervation, but autopsies which I have made have shown that in addition there is extreme passive congestion in the veins and sinuses of depending portions of the brain and meninges, with more or less coagulation of the fibrin within them. Spurious hydrocephalus, in most instances, occurs at an advanced stage of the diarrhea, but sometimes in severe forms of the "summer complaint" it occurs early. I have met with one case this summer in which the diarrhea had continued only a very few days when this complication supervened, so masking the primary disease that the physician supposed the case to be one of acute meningitis. The anterior fontanelle was depressed, and the head, especially its posterior portion, was hot. When spurious hydrocephalus threatens, cold applications should be made to the top and back of the head by a cloth frequently wrung out of ice-water or by an India-rubber bag.

The infant should be allowed to remain quietly in the recumbent position. Rocking it and frequently taking it up and walking with it, which anxious mothers will often do, unless directed to the contrary by the physician, promote the vomiting and diarrhea. Repose should be enjoined as in the diarrheal maladies of adults, and when the infant is taken out-doors to obtain fresh air, it should be carried quietly and with as little jolting as possible.

Hypostatic congestion of depending portions of the lungs, ending in hypostatic pneumonia, is common in feeble and wasted infants suffering from the diarrhea. We meet such cases towards the close of the hot weather, and the chief symptom which indicates this complication is a short and painless cough. To prevent the hypostasis, which occurs in those who lie day and night in one position, it is proper to change the patient from side to side every two or three hours.

THE USE OF THE NATURAL MINERAL WATERS IN THE TREATMENT OF THE DISEASES OF CHILDREN.

BY J. M. KEATING, M.D.,

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I DESIRE to call attention to a subject which, I feel sure, offers a large field for investigation, and one which will repay the thought and study expended upon it. The facility in these days of supplying the waters of mineral springs, enables us to prescribe them, in a large number of cases, for a long period, to get that alterative action from some, and the blood-making properties from others, which only the continued use of the constituents of these waters will bring about. I need not dwell at this time upon the decided value of using these natural waters. We have all tried them, or know their properties, their power, and the results of their continued use. I may say we are also aware of the effects of their abuse; in fact, they have taken a position as recognized medicinal agents, and have been lifted from the low stand they occupied as the cure-all of the empiric. Nor need I dwell at any length upon the now well-recognized fact of the importance of the frequent administration of small amounts of potent drugs in thorough subdivision or solution to act as alteratives or detergents, as the cases may demand. I need simply state that we find them most useful in children's practice.

We are told that the action of mineral waters may be divided into the immediate and the remote, the former relating to the results obtained within twenty-four hours after the water has been taken. This class will comprise those waters that are purgative, diuretic, or diaphoretic. Cold waters, alkaline in constitution, and containing carbonic acid gas, will prove sedative to the stomach and arterial system; whilst hot waters, highly charged with sulphuretted hydrogen, will prove stimulating. Those waters that are eliminative, may be cathartic or diuretic, according to circumstances. If given in large quantities, at one time, before digestion, they will act on the intestines; in small quantities, throughout the day, they will stimulate the kidneys. Pure water, in large amounts, will act on the skin; sulphur waters have this effect to a marked degree; especially is this the case if the surrounding temperature be elevated. In regard to the composition of these waters, we find it stated that the remote, or alterative, effect greatly depends upon it. The alkaline waters are alterative; they modify the processes which produce lithic acid. The saline waters exert their influence on the glandular system. The sulphur waters tend to the skin. The chalybeate waters affect the red globules of the blood.*

We have, then, here a power which can be recognized in the treatment of those diseases of children that are the results of diatheses, just as potent as when exercised to counteract those conditions which are acquired in adult life.

Do we make use of them sufficiently?

In glancing over the subject, we find in these mineral waters a most perfect and natural solution of the medicinal substances, which renders their absorption complete. Let us study for a moment the chemical composition of the waters at our command. We find the alkaline containing the carbonates and bicarbonates of sodium, potassium, magnesium, calcium, lithium, strontium, iron, and manganese, most valuable in children's practice as alkaline alteratives. They are used in lithuria and acid dyspepsias, especially where there is gastric irritability, the result of intestinal disorders. They increase the activity of the kidneys, and rarely, if ever, affect the bowels. Vichy water is a type of this class, though the carbonic gas which it contains may render it objectionable. This may be remedied by allowing the gas to pass off before the water is used. It can be administered to young children by diluting the milk with it. In this country, probably, the water of Capon Springs is the most valuable. It has been recommended for intestinal worms in children. I have used largely and with success the Buffalo Lithia Water Spring, No. 2, and Farmville Lithia water, with infants of the tenderest age; especially have I found them valuable in the eruptive fevers, where there is much thirst and scanty, high-colored urine. A stone jar of it should be kept on hand, and the water used *ad libitum* when the child is thirsty, or it may be used to dilute the food. In those cases where there is constipation, the alkaline saline waters, as Saratoga seltzer, may be used instead.

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* Walton: Mineral Springs of the United States and Canada.

The saline waters contain the chlorides of sodium, potassium, magnesium, calcium, iron, etc. They also contain the iodide and bromide of sodium; they are cathartic and diuretic when taken in quantity, and "stimulate the glandular and lymphatic systems, and increase the flow of bile." As alteratives in scrofula they are most useful. The best way to administer these saline waters to children is by the bath. Certainly, in children's practice, the most valuable of this class is sea-water. The baths may be administered daily, allowing the child to remain in the water ten or fifteen minutes, and it is better for the water to be about blood-heat. When the seashore is inaccessible, or in winter, the prepared salt can be obtained and will answer almost as well. Of this, about one ounce to the quart of water would represent the strength of sea-water. Undoubtedly, cases of scrofula are benefited by breathing the sea-air, which contains a perceptible amount of salt.

The sulphur waters contain, as a rule, sulphuretted hydrogen; this latter is freely given off to be decomposed when in contact with air, the hydrogen combining with the oxygen and depositing the sulphur. After exposure to the atmosphere, these waters can be used internally in children's practice, and are valuable on account of the sulphates they contain. When fresh, the presence of sulphuretted hydrogen renders them most useful as baths, especially in syphilitic cases. There are the calcic-sulphur waters, which contain the carbonate and sulphate of lime, and would be useful in cases of rickets with inherited syphilis. Some of these waters, as the Yellow Sulphur Springs, Virginia, and the Greenbrier White Sulphur Springs, West Virginia, contain a proportion of the purging sulphates. The waters of Clifton Springs, New York, might represent this class. As a rule, they have a tendency to constipate. The saline sulphur waters, containing chloride of sodium and an abundance of sulphate of soda and magnesia, are of course cathartic.

These waters may be used internally in cases of obstinate constipation; for instance, an infant may be given a tablespoonful or two of Bedford water several times daily with excellent effect; this water is alkaline, and contains sulphate of magnesia. These waters are useful as an alterative in many cases; probably the water of Sharon Springs is best for constant use. It is said that Indian parents often took their children who were affected with cutaneous diseases and dipped them in these waters. In cases of engorgement of the liver from malaria or other causes, rheumatic tendency, or especially when rheumatism in early life has left some valvular deposits, these water should be used. In the latter case we have no more valuable waters than those of Richfield, New York, and probably many of those most distressing cases of organic disease of the heart, the result of rheumatism in early life, could be avoided by proper use of this excellent water before it is too late. In syphilis, or rickets, the iodine spring of the Bath Sulphur Springs of West Virginia would be useful. There is no reason why children should not become soon accustomed to the taste of these sulphur waters, and until then the water can be exposed to the air. In infants the baths will be advantageous. The water of the Hot Sulphur Springs, Virginia, is said to be especially useful in allaying irritation of the mucous membrane, especially of the lungs, or in chronic bronchitis. These calcic-sulphur waters are probably more valuable in diseases of adults, owing to their special action upon the bladder.

The chalybeate sulphur waters, as Minnequa Springs, Pa., are recommended in cases of anæmia following rheumatism, or in mild syphilitic affections of the skin. We find, then, that in eczema, in the rheumatic diathesis, in cases where there is a syphilitic taint, the saline-sulphur waters can be used for baths amongst children. Of these we might name such springs as the Blue Lick, of Kentucky; the Lafayette, the Indian Spring, the West Baden, the French Lick, of Indiana; the Blount Springs, of Alabama; Green Cove Springs, of Florida, and others before mentioned. Let us turn to another class of waters, those containing iron, the chalybeate, represented by the Rawley Springs, of Virginia, or of Schooley's Mountain, New Jersey. There are those that are saline—most valuable in cases where saline waters are demanded, as in scrofula; there are those that are alkaline, useful in case of weak digestion, and dropsy from kidney disease, with anæmia. Of the former, the Ocean Springs of Mississippi is an example; of the latter, the Bailey Springs of Alabama.

The alum waters, which also contain iron, are valuable in the scrofulous and tubercular diathesis. The Oak Orchard Acid Springs, of New York, contain free sulphuric acid. They are useful in cases of atonic conditions of the bowels without congestion of the mucous membrane, in relaxation of the mucous membrane in whooping-cough, or as a stimulant to that of the stomach following summer complaints, etc. They can be taken internally in small quantities. They are most useful as baths, especially in bone-scrofula, in discharges from the ears or nose, in chronic eczema. The Rockbridge Alum Springs of Virginia are a type of this class. The Bath Alum Springs, of Virginia, are probably the best, as they contain a larger proportion of iron. The Alum Springs of Cresson are said to be valuable.

The purgative waters which are made use of are those containing the sulphate of soda, or sulphate of magnesia, in combination with other salts. As I have before mentioned, Bedford water, being a purgative chalybeate, is one of the most useful of its class; its diuretic action is also well marked; this latter mode is valuable in cases of chronic interstitial nephritis following scarlatina. In the acute stages, the alkaline waters, as Bethesda water, and the others before mentioned, should be used.

The rickety diathesis is the only one remaining for us to study, and here we have a most valuable class of waters to make use of, namely, the calcic. They are tasteless, and can be freely used as ordinary drinking water. It has frequently occurred to me, and I have followed it out in practice, to require pregnant women, who have previously born children deficient in bone development, in other words, rickety, to drink these waters. Of this class Gettysburg water is a type—it is an alkaline calcic water. The Allegheny Springs, of West Virginia, would also be valuable, especially when a slight purgative action is required, as they have an excess of sulphate of lime. The Sweet Springs, of West Virginia, contain a large amount of the carbonate of lime. Bethesda water also belongs to this class.

We can thus treat by these waters the diatheses of infants and children, also applying them to the acute diseases which require a whip to increase the functional activity of eliminating organs. For fevers, we use the alkaline waters; for scrofula, the chloride; for syphilis, the sulphur; for the tubercular, the chalybeate and alum; for the rickety, the calcic; for the rheumatic, the sulphur also.

Of course we must bear in mind that it is not from the one ingredient alone, which seems most prominent in the analysis, that most of the benefit is derived, as we well know the simple solutions of these substances, when by themselves, have not this power to the same degree.

To obtain the alterative action, which is the one we most frequently require, will necessitate the constant and prolonged use of the water selected, either internally or by bath, as the case demands. For bathing purposes, it may require a sojourn at the spring selected; and for cutaneous affections, or scrofulous discharges and rheumatic joint troubles, this may be imperative.

Clinical Lectures.

1. EPILEPSY. 2. EPILEPSY FROM INSOLATION. 3. EPILEPSY. 4. CRANIOTABES. 5. PSEUDO-MUSCULAR HYPERTROPHY. 6. STRICTURE OF THE ESOPHAGUS.

A CLINICAL LECTURE BY A. JACOBI, M.D.,

Clinical Professor of the Diseases of Children in the College of Physicians and Surgeons, New York.

REPORTED BY REUBEN C. SHULTZ, M.D.

[Concluded from Page 446.]

CASE V.—PSEUDO-MUSCULAR HYPERTROPHY. This little girl is eleven years old; her history is as follows: She commenced to walk when seventeen months old; her walk was not like that of other children; the gait was waddling. When five years old she had whooping-cough, from which she recovered. At present she cannot assume the erect posture without assistance.

You will observe that she has the waddling gait now, that she appears to be particularly weak about the ankles; the ankles appear, as it were, to be flabby in the shoes. The limbs are slightly curved. The father says she began to walk waddling when about two years old. He has one other child, who does walk in this manner. The history further states that the calf-muscles are much enlarged. There is also lordosis, the abdomen being thrown forward; the muscles of the arms and chest are atrophied.

You will observe that at present there is considerable lordosis, and this is not caused by a change in the bones of the spinal column. When she sits down she straightens up the back, and the lordosis disappears. It was therefore only apparent, depending on a disturbance of the equilibrium resulting from weakness of the legs, as we have seen babies four and six months old, while attempting to sit, fall forwards, simply because they were unable to support themselves because of want of muscular strength; so in this case there is apparent lordosis from muscular weakness, which disappears when the patient assumes the sitting posture.

The history states that she never walked like other children; she probably had some lateral curves of the lower extremities, or of the legs only, and she never entirely recovered from those conditions. Now rachitic children are apt to become very strong, particularly so as their limbs are usually shorter than normal. In her case, however, it was different. She was weak from the commencement, perhaps became weaker, but instead of having thin limbs, she had large limbs; instead of having thin, atrophied muscles, she had large muscles, particularly so at the calf of the leg. If you will look at the right leg, you will see that the soleus and gastrocnemius are very large indeed; the same is true on the left side. Those muscles remind you, as to size, of the muscles of those who make walking a business, and you would expect that muscles of that size would certainly be able to support her. Now, if large muscles are the result of exercise, and are very powerful in one person, while the same size of muscle is not sufficient to support the body in another person, there must be a great deal of difference between the nature of the muscles in the two persons. This patient has never been able to use the limbs to advantage, although the muscles are very large. The anatomical structure of the muscle you know quite well: that it consists of peculiar muscular fibrillæ, separated from each other by a thin sheath of interstitial tissue, with very little fat. Imagine that the interstitial tissue grows considerably, no matter whether the muscular fibrillæ with their transverse strips remain intact or not, and imagine further that a large instead of a small amount of fat is deposited around and between the muscles, and you will see that you have different styles of muscles. In one case it is normal, while in the other it is absolutely abnormal; and it depends upon the amount of fat, the amount of interstitial tissue degeneration, and the amount of disappearance of muscular tissue, whether their functions remain normal or whether they become absolutely abnormal.

This is not atrophy of the muscle, then, but what has been called pseudo-hypertrophy. Real hypertrophy would consist in an increase in the number of the fibrillæ of the muscular tissue, while pseudo-hypertrophy consists in an increase of the bulk, which, however, is due less to an increase of the muscular fibrillæ than of fat and newly-formed insterstitial tissue. The muscular fibrillæ development can be interfered with in such a manner, and to such an extent, that the sarcolemma almost entirely takes its place, and there is nothing of the muscle left, or very little of it left, to carry on its nornal function. Several cases of this kind have been put on record, although the disease is very rare. What has been described here takes place in almost every case—weakness of the lower extremities; increase of the calf of the leg; sometimes an immense increase of the quadriceps femoris, and of the adductor muscles of the thigh afterward. There are many cases, however, in which neither quadriceps nor adductors will show any symptoms. The gluteal muscles are very frequently affected, but generally much later than the calf; when affected there will be large development in that region of the hip, while at the same time the patient suffers from lordosis. All the muscles of the body, including those of the upper extremity, have been known to show pseudo-hypertrophy, but more frequently the muscles of the upper extremities are atrophied. In this case there is a retarded development, an atrophy rather than hypertrophy, of the muscles of the upper extremities.

Now, what does this condition come from? What it is locally I have already stated; it is a peculiar condition of the muscular tissue, which consists in the formation of an immense amount of new connective tissue, with increase of nuclei; the deposit of granules of fat, the result, undoubtedly, of what we are in the habit of calling an inflammatory process. It is, undoubtedly, no matter whether a primary or a secondary lesion, a muscle inflammation, a myositis, muscular degeneration. The only question is whether it is primary or secondary. The large majority of authors are of the opinion that the disease is an affection of the muscular tissue, and not of the central nervous system. They claim that the muscular tissue as such may undergo universal degeneration; just as in the case of the mucous membranes, whether of the mouth, of the intestines, or elsewhere, in certain diseases, there is liability to almost a universal change, and in such case the patient will be said to be scrofulous. The same may be said of certain chronic inflammatory process of the skin. In a similar way, inflammation may take place in the sole of the foot, the palm of the hand, the skin of the penis, the eye, and so on, with this difference, that the eczema, or the herpes, or other disease, will be found to assume different characters according to the locality. Thus it has been claimed by many authors, that there is a peculiar form of myositis, terminating in degeneration of the muscles, which results in hypertrophy, and now and then in atrophy, as a primary disease of the muscle. Others, however, have stated that, in some cases at all events, the spinal cord is affected. There are three or four *post-mortem* examinations on record in which the spinal cord has been found affected. Some, therefore, and especially in Germany, among others Cohnheim, assume that the pseudo-hypertrophy is due to disease of the spinal cord. Others, and especially Charcot, believe that the pseudo-hypertrophy is distinguished from muscular atrophy in this, that pseudo-hypertrophy is primarily a disease of the muscle, while muscular atrophy is primarily a disease of the nervous system, and particularly of the spinal cord. I believe that this last distinction cannot be maintained at all, for in this case, and to a more marked degree in other cases, pseudo-hypertrophy and muscular atrophy have been found together, and a single such case would destroy the distinction made by Charcot. If a case of this kind come under your observation, and you are able to follow it up for some years, you will find that, after perhaps five or eight years, the same muscles, which were the seat of pseudo-hypertrophy, will become atrophic. You can easily imagine why this should occur. The deposit of fat will be readily absorbed, and cause a large amount of the tumefaction to disappear; the muscular fibrillæ become atrophied, so that nothing scarcely remains behind but interstitial tissue, and you know what has been said, that interstitial tissue will shrink, contract, as in interstitial pneumonia. Thus, in many cases, pseudo-muscular hypertrophy will finally result in muscular atrophy.

The first man, and it is worth while to remember his name, who recognized pseudo-hypertrophy of the muscles, and described it as such, was the great French electrician Duchenne, to whom we are so much indebted for putting on a sound footing electro-theraphy. After him comes Remak, the great German neurologist; of late, Cohnheim and Charcot. There are quite a number of isolated records in the several literatures of this affection, but up to this time there have not been so many cases observed but what each one is instructive and should be placed on record.

What can be done for such patients? Duchenne, whose name has already been mentioned, recommends faradisation, using the interrupted current. Benedict, the electrotherapeutist of Vienna, utilizes mainly the influence of the continuous current. He claims to have cured cases of pseudo-hypertrophy with the galvanic current. The general nervine alterants and nutrients have been used. Strychnine, arsenic, and iron have been used, sometimes without much indication. That is about the end of the remedies indicated.

I believed that I benefited a case by treatment based on a different course of reasoning a number of years ago. As the cases are originally an inflammation, an exudative inflammation, and as, moreover, there is a degenerative process in one set of muscles, while another set of muscles is just beginning to become affected, so that we have in fact to deal with a number of different stages of one and the same disease, only in different localities. I thought that, at all events in the beginning, the disease might be obviated or arrested by protracted antiphlogistic treatment. On the strength of that reasoning, I resorted to mercurial therapeutics only. I gave corrosive sublimate and other preparations of mercury for nearly a year, with very brief intervals, and I believed that the case, for the considerable length of time that it was under my observation, improved. I am sorry to say that after a year, or a year and a half at most, the case passed from under my care, and I know nothing further concerning it, except that a few years afterward I heard that the patient was in New Jersey and was doing very badly. What has been done for the boy since he went from under my care, or whether he is still alive or not, I do not know. During a time, as said, I had the child under close observation, and there was certainly an improvement in the symptoms. Nothing was done for it except to give small doses of mercury and to use the galvanic current.

There is greater weakness in this girl's arms than there appears to be when she is told to lift them. She swings them, and apparently brings them up with considerable force; but when not allowed to raise them with a swinging motion, she is scarcely able to elevate them at all. The muscles on the humerus and shoulders are most atrophied. In order to get at all the symptoms in the case, we shall at some future time have to try the influence of the faradic and interrupted current. That is important not only with regard to symptomatology, but also with regard to treatment; for if the muscles are still in such a condition that both the interrupted and the continuous current have an influence on muscular contraction, I should have a great deal more hope for the case than if there were no such electrical irritability left. The influence of the current upon each muscle should be studied, for not only does the prognosis in general depend upon this, but the prognosis regarding the ultimate condition of the several muscles depends largely upon it. If both the interrupted and continued currents would produce their influence upon the muscles now, but would no longer do so after six months, your prognosis would be much less favorable, and you might take it for granted that all had been done for the case that could be done. Very probably, however, the continuous current would be of benefit in such a disease.

There is a peculiarity about her chest which, so far as I am aware, is present in all cases, namely, a flattening, due to the early atrophy of the muscles.

The patient has not been under treatment. I shall complete the symptomatology by the use of the interrupted and continued currents, and she will be brought to the clinic from time to time to show the results of whatever treatment may be instituted. In this connection, however, I shall only add that it strikes me as a sensible plan to try the effect of a remedy, in addition to the mercurial treatment, which as a tissue-builder and a tissue-destroyer has hardly its equal—it is phosphorus. I have often spoken of the bone-building effect of phosphorus when given in small doses, say one one-hundredth or one-sixtieth of a grain daily. More than a dozen years in this clinic and out of it, I have given those doses of phosphorus, dissolved in oil, or otherwise, to children suffering from all sorts of chronic and subacute diseases of the bones, with good results. I based that line of treatment on the celebrated experiments of Wegner, which over a year or two years I have detailed here. It strikes me that the same doses of phosphorus might be advantageously employed, as a rapid tissue-builder, in this case. The greatest care, however, must be taken not to employ large doses. There is no more destructive power than that of phosphorus given in large doses a long time.

CASE VI.—STRICTURE OF THE ESOPHAGUS. *Gentlemen:* you will remember the child, seventeen months old, which was brought to this clinic last Friday, with a history of stricture of the esophagus, which had given rise to difficulty in swallowing, and had interfered with nutrition so that the patient was considerably emaciated. Attempts had been made to pass the esophageal bougie. You will remember the remarks which I made upon the case at that time.

The child has since died, and I have the specimen at home. The following anatomical changes were found: Death took place very suddenly; the right pleural cavity was filled with milk and whiskey; the left did not contain anything; the stomach was full of the same material. I laid the esophagus open, and found that there was no change below the superior portion, nor above the cricoid cartilage. I spoke to you last week of the usual place at which degeneration and cicatrization took place, namely, at the pharynx and upper portion of the esophagus, and the portion just above the entrance into the stomach. In this case there was found a good deal of cicatrization at the entrance of the esophagus, at about the level of the cricoid cartilage. You will remember that I introduced the bougie into the stricture, and that when it was withdrawn some resistance was felt. The same fact was noticed afterward when Dr. Huber introduced the bougie. On the last day of the child's life; Dr. Huber finally succeeded in getting the bougie down, and easily enough. You will remember that the bougie measured about sixteen millimeters. The cicatrix was found at the location just stated, and the tissues were just elastic enough to admit of the passage of a bougie, of the size mentioned, on gentle pressure. The question arises, how did the milk and whiskey get into the right pleural cavity? First I poured water into the esophagus from above, hoping to find the opening, but with no result. I then poured water into the esophagus from the stomach, but with no result. Then I tried very fine bougies, and found that they would enter a hole in the mucous membrane and submucous tissue, and without exerting any force the bougie would slip down along the outside and posterior aspect of the esophagus, to near the neighborhood of the diaphragm, and there perforation had taken place into the right pleural cavity; that, then, was the termination of the many attempts to introduce bougies. I remarked at that time that, in such strictures, as also in strictures of the urethra, not infrequently large bougies or sounds will enter very much more easily than small ones, because the latter are more apt to break through the tissue, particularly gangrenous tissue, and make a false passage. In this case large bougies were first tried, but they could not be made to enter to any extent. Gradually instruments of smaller size were employed, and it is probable that, during the repeated attempts to pass through the stricture, the mucous membrane was broken, food gradually oozed into the wound, and finally formed a fistulous tract. The bougie, however, could not have formed the entire fistulous tract, as it is too small to admit of the passage of a bougie of the size employed. It appears evident, therefore, that the mucous membrane was injured five, ten, or perhaps fourteen days ago, and gradually a fistula has been forming by food finding its way down into and increasing the depth of the pocket. The result seemed to have been inevitable, and it shows, first, what may occur; and second, that one cannot be too cautious in the manipulation of such cases. The same thing may happen, and frequently does happen, in operations for stricture of the urethra, where the locality is just as well known as in the esophagus; but as long as the operator cannot see to guide the point of the bougie with the eye, he is tempted to go on and continue his efforts, and use some force to overcome the resistance, and the result will probably be the formation of a false passage.

Clinical Memoranda.

REPORT OF A CASE OF PROLONGED CONVULSIONS IN A CHILD, WITH TWO DIAGRAMS SHOWING THEIR FREQUENCY DURING THE OCCURRENCE OF THE "STATUS EPILEPTICUS."

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A LITTLE girl, four years old, was admitted to the Glasgow Western Infirmary, under my care, on the 25th of July, 1882. She was affected with frequently-recurring convulsion-fits, associated with a paralytic condition of the right limbs. The fits had begun when she was about twenty months old; the illness set in suddenly with an outburst of fits—about a dozen on the first day. The convulsions were chiefly, almost exclusively, on the right side of the body at first. This unilateral character was maintained, as a rule, up till admission and for some time thereafter. It was understood at first, from the child's friends, that the right-sided paralysis came on suddenly at the same time as the fits; but on special inquiry, it appeared afterward that the father was not sure of this, and he could only say that the powerless state of the right limbs was noticed about that time. Probably the child was in such a condition, with frequent fits at the beginning of the illness, that no special observations on the limbs could be readily made. An interesting feature in the seizures was the way in which the child began to cry, complaining of pain in the right leg, referring it to a part below the knee, *before* the convulsive seizure set in on this side; the fingers and elbow became flexed and rigid, the leg twitched a little, and then the thigh was flexed on the abdomen and the leg on the thigh, and the whole limb kept in a rigid state. So long as the fits were chiefly, or exclusively, unilateral, the face twitched but little, and often not at all. The muscles of respiration, however, sometimes got involved, and the face became blue at times. On admission, there were as many as fifteen fits in the twenty-four hours. The paralysis of the right side was such that the child could not use the right hand in feeding herself, and she could not stand unless supported, owing to the weakness of the right leg. She also passed water under her, and her skin was scalded about the buttocks. The examination of the thoracic and abdominal organs gave negative results. Her family history was bad. Her mother and a maternal uncle died of consumption. Her maternal grandparents are cousins, and both are hemiplegic. She has one brother, who is quite healthy, and her father is also healthy. The case seemed a very unfavorable one as regards prognosis. The sudden development of violent convulsion-fits of a unilateral character, along with the paralysis on the same side, and the persistence of both conditions for nearly two years, seemed to me to point very strongly to some gross lesion on the opposite side of the brain, probably on the surface, and the idea of a meningeal hemorrhage, resulting in a cyst or in the presence of false membranes, was entertained as the most probable explanation. The clear indication was to try to reduce the frequency of the fits, and so bromide of potassium, in ten-grain doses three times daily, was ordered on admission, and in September small doses of the iodide were added. About the middle of September the induced current was applied regularly to the paralyzed limbs—the muscles had been only tested on admission, and found to respond readily to this form of electricity. Under this treatment, a notable improvement took place; only four or five fits usually occurred in the twenty-four hours. She could, in the course of October, feed herself with the right hand without spilling the fluids, and was also able to walk with a little assistance. By Christmas she was able to walk about from one ward to another quite alone, but with a little hemiplegic dragging of the right foot. She was very bright and intelligent, and was a great favorite in the wards. She seldom or never passed water without notice, and her general health was excellent; but the fits persisted—usually from two to six in the twenty-four hours.

An attempt was made to act on the supposed seat of the disease by using the constant current, cautiously applied to the head, from a few small Leclanché cells. This was in January, 1883. It was used eight or nine times. At first it seemed as if the fits were being reduced by this treatment, as on some days only one or two occurred, and sometimes none at all; but at the same time the paralytic condition became aggravated, and the muscles of the back became so weak that she could not sit on a chair. It was thought wise to discontinue the galvanism; and as she continued to be very powerless, although having temporary improvements, it was decided to stop the bromides also (she sometimes had bromide of potassium and sometimes this was combined with bromide of sodium). Subsequent experience of her case led, however, to the belief that this change for the worse was more likely due to a variation in her illness than to any deleterious influence of the galvanism or the bromides.

A striking feature was noticed about this time (February, 1883), when she had an attack of tonsillitis with sharp fever, the temperature going up to 103.6° F. During this period of feverishness she had almost no fits. The absence of fits during feverish attacks was noticed several times in this case, particularly during the prodromal fever, when she had measles (in April and May, 1883), and on one or two other occasions, when the difference in this respect was so marked that no doubt could be entertained as to the connection of the two facts.

But to resume the narrative: After the interval free from fits during the feverishness of the tonsillitis, in February, the fits again returned—two to six or ten in the day; and, after a day or two, in which she had a very marked increase in their number, the child passed into a condition of almost incessant convulsions for forty-eight hours. These fits were, as a rule, of short duration; they affected usually the whole body, and were not limited to one side. They were frequently, perhaps usually, separated from one another by periods of consciousness, in which the child looked up, and, although unable to speak, smiled on recognizing the attendants. She was attended with the greatest devotion by the Sister and nurses in charge, and as a nurse had always to be stationed at her bed, a note was kept of the exact times of the fits. From this record the accompanying extract from a chart representing the number of fits per day has been framed. This shows very well the way in which the fits rose in number, day by day, till the enormous aggregate of one hundred and eighty in the twenty-four hours was reached on March 2d, and then a sudden fall to forty-five, and a more gradual fall to the usual number of six or eight in the twenty-four hours.

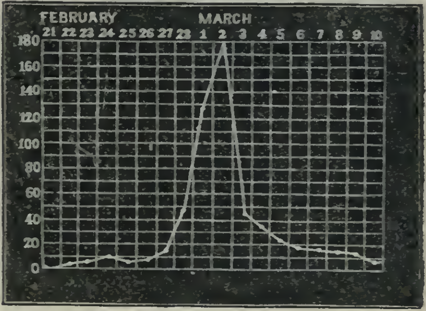

FIG. 1.

During the "*status epilepticus*" thus described, the temperature only attained a moderate height, never going above 102° F. in the rectum, and indeed seldom exceeding 101° F. This very moderate temperature gave some encouragement as to the issue. The treatment was limited to careful nursing and the administration of bromide of potassium by the rectum, as, of course, nothing could be given by the mouth. As much as forty grains of the bromide were given in one enema, and sometimes five grains of chloral were added to this dose, and the bromide was given for several days in these large doses by the bowel; but after the course of a few days, when the child could swallow, ten-grain doses by the mouth were substituted. This was done as a matter of precaution, in case of a return of the incessant convulsions, but during the height of the paroxysms neither the bromide nor the chloral seemed to exert any very distinct influence.

The fits continued to occur, in diminished but varying numbers, but by the last day of March one entry was made of "no fits;" this, however, was exceptional. After this violent outburst of fits, the child was kept in bed, as she was very shaky, but she gradually regained strength, and in the course of April she was able to walk about the wards and lobbies quite alone, and quite as well as in the previous December. She was also very bright and intelligent, spoke well, and was, in fact, remarkably sharp. During this period the fits numbered from one to four daily, occasionally she had none; there was throughout a special tendency for the fits to occur at nights.

At the end of April, 1883, she contracted measles, and had to be sent to the Fever Hospital. The fits were notably less during this attack. It was not a severe illness, but her general health was found to be a little impaired when she returned to us in a month. She soon, however, regained her previous condition and strength, at least to a large extent.

In the course of June, 1883, a deterioration was noticed in the child's condition, both mental and physical. She became weak at times and unable to sit up, being inclined to fall forward sometimes, and was quite unable to walk or stand. There was also a tendency to the dribbling of saliva from her mouth, and her speech by the end of the month became less clear, and her intelligence impaired,—the fits at this time increasing up to fifteen or twenty in the twenty-four hours. This exacerbation continued, and on July 4th, 5th, and 6th, we had a repetition of the "*status epilepticus.*" This attack was even more alarming than the former, as the temperature went somewhat higher, going up to 102.6° F., and continuing about 101° F. for some days. There was also a more profound unconsciousness, as no trace of intelligence could be obtained between the fits. The treatment was similar to that already described—large doses of bromide of potassium and small doses of chloral, given by the rectum, as she could not be got to swallow. As the great frequency of the convulsions subsided, there was a return of consciousness, viz., on July 7, when the fits were twenty-six in the twenty-four hours. On that day she spoke a word or two by dictating them to her. The diagram of this attack (Fig. 2) is interesting as showing a great general similarity to the previous one. The height reached by the curve was not quite so great, and the ascent was somewhat more gradual, but the decline was very similar.

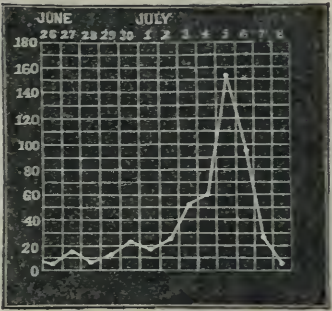

FIG. 2.

After this paroxysm, the child's condition was much deteriorated. She spoke in a very drawling way for a little while, and then lost the power of speech almost entirely; sometimes she could be got to repeat words, and she occasionally cried out something, but speech was practically lost. She also dribbled a great deal from the mouth. Her condition as to muscular strength varied very considerably; she could sometimes make an attempt at walking with a good deal of assistance in holding her up; the toes were usually pointed downwards. Her arms were unsteady and the movements erratic. At times she could not attempt to sit up even while propped up with pillows. She now passed everything without notice. The fits continued to occur frequently, varying from about six to twenty per day. They were usually general convulsions, not unilateral; often she bowed herself forward at the beginning of the fit, and the lividity was sometimes extreme. The "aura," referred to as present at the beginning of the illness, shown as a pain in the leg before the fit, ceased to occur after the great paroxysm in March. In the later stage, her fits were often followed by crying or sometimes by laughing, or by an appearance as if searching for things amongst the bed-clothes.

The intelligence suffered obviously, but frequently she was so bright, and retained her rosy cheeks so well, that visitors were inclined to think there could be nothing the matter with her. But although she could not speak, she seemed for a long time to understand everything said to her, and recognized old patients, who might revisit the ward, whom she had known.

A slight approach to the "*status epilepticus*" occurred again in the last days of August, 1883, when the number of fits reached as high as fifty or sixty on some occasions, and the temperature likewise went up a little; but the general aspect at this time was that of an aggravation of her usual fits, rather than the condition of incessant convulsions, such as occurred in March and July.

Towards the end the intelligence and temper failed notably. There was likewise much trouble in feeding her, and she began to fall off in flesh. The lungs seemed to become congested, and at times she had a crowing cough. Within the last few days of her life, the fits increased to forty or fifty in the day, and the temperature ran up for four days to 103° or 104° F., and even reached 105.8° F. the day before her death.

She died on April 7th, 1884.

The *post-mortem* examination was made on April 9th, by Dr. Steven. The result was to show no evidence of any old gross lesion, as had been expected. One or two peculiarities were detected on searching critically. (1) While the sinuses were quite pervious, a small bony-like spicule was discovered in the *torcular herophili*, but apparently no obstruction existed. (2) The dura-mater was unusually adherent to the calvarium, but there was no opacity of the soft membranes or any appearance of meningitis. (3) The surface of the brain presented, perhaps, an unusually gorged state of the vessels. (4) There was a very marked indentation or hollow on the under surface of the left temporo-sphenoidal lobe, about one and a half or two inches behind its anterior extremity; this could almost admit a small hazel-nut. On looking at the part of the skull corresponding to this depression it seemed to agree with the prominence of the semicircular canal on the petrous portion of the temporal bone, and this eminence seemed distinctly greater on the left side than the right. The surface of the bone seemed quite healthy, and it was especially noticed that the brain-substance around this depression did *not* appear diseased. The semicircular canal on this side, on being cut into, was found to contain a thin, purulent-looking fluid, which did *not* seem to have come from the tympanum. The undue eminence on the petrous bone did not seem to account altogether for the depression in the brain. (5) The last peculiarity was a distinct, but very slight, relative softening of the whole of the left hemisphere as compared with the right. This did not prevent thin sections being made by the knife in exploring the ganglia, which were all carefully searched for a lesion in vain. The softening, therefore, was obviously slight, but on comparing the two sides throughout the difference in firmness was quite plain. The spinal cord was removed and seemed quite normal, and no evidence of disease existed in the thoracic or abdominal viscera.

The result of the post-mortem examination was to make one believe that this case was one of epilepsy without any gross lesion of the brain, and that the hemiplegia on the right side was of the kind found to *follow* violent epileptic convulsions, particularly when these are unilateral. The localized paralysis, the aura in the right leg, the right-sided convulsions, all seemed to point very strongly to a gross lesion in the cortex of the left hemisphere; and when, with the extension of the convulsions and the loss of the aura, we had the development of aphasia, it seemed even clearer that some such lesion must exist. Probably the most serious error in the diagnosis arose from accepting too absolutely what seemed so very probable, the statement that the paralysis came on at the very beginning. It was found afterwards, indeed, that the father was not clear about this; but if it had been known that the paralysis only supervened after the fits had lasted some time, the same confidence would not have been felt in making a diagnosis of a gross lesion of the brain.

The slight general softening of the left hemisphere was probably of comparatively recent date, and as there was a change for the worse in the child's condition and intelligence about the time of the *second* supervention of the "*status epilepticus*," nine months before death, its commencement may perhaps be referred to that time, or very possibly it may have been of more recent development still. It is certain that, after the *first* great attack of convulsions in the previous April, the child's condition mentally was very perfect, and her paralysis very trivial. This preservation of the intelligence after thousands of convulsions, and after such a violent seizure, was perhaps one of the most striking features of this child's case.

VIENNA LETTER.

FACILITIES FOR STUDYING DISEASES OF CHILDREN—PROFESSOR MONTI AT THE GENERAL POLYCLINIC—PROFESSOR WIDERHOFER AND DR. FRÜWALD AT THE ST. ANNA HOSPITAL—PURPURA HEMORRHAGICA —CEPHALHEMATOMA—POLYPI OF THE RECTUM—PHOSPHORUS IN RACHITIS—HYDRARGYRUM TANNICUM OXYDULATUM IN INFANTILE SYPHILIS.

VIENNA, June 19, 1884.

For the study of children's diseases, Vienna probably offers as many advantages as any other European city. By some it might not be considered as good in this respect as New York, although it cannot be denied but that the opportunities for examining patients, and for seeing and doing post-mortems, are exceptionally great here. The average medical man does not come to Europe to see rare cases, which may never occur in his own private practice, but to perfect himself in the diagnosis of diseases that he must meet with and must recognize.

As is well known, Vienna, more than any other city, seems to cater to the tastes of foreigners, and is ready to offer them any conveniences necessary—for an equivalent. The department of children's diseases forms no exception to this rule.

The best opportunities to study this branch of medicine are offered at the General Polyclinic and at the St. Anna Hospital for children. At the Polyclinic, Professor Monti lectures daily, and his plan is to exhibit at first a few good cases, which he demonstrates, and then spends the last fifteen minutes of the hour in a short systematic lecture, which is continued from day to day. Every facility is given to all to carefully examine each child, and respect is always paid to questions asked by any one.

If any especially interesting case appears, he will spend most of the time upon it, giving the different forms of treatment generally recommended, and finally giving the particular treatment of the case in hand. He lays great stress upon the diet in treating infants, and his first point is to find out how, and with what, the infant is nourished, and to correct this if faulty, as it so often is, leaving all further treatment to that *vis naturæ medicatrix*—a very wise thing to do in the treatment of infants. His lectures on infant feeding are particularly good, and his treatment of infants, according to these rules, fully shows their importance.

The St. Anna Hospital, although not very large, is good, because the eruptive and contagious diseases are generally well represented there.

Instruction is given by Professor Widerhofer and his able assistant, Dr. Früwald. Professor Widerhofer's course consists in an exhibition of cases from the out-door department, a short didactic lecture, a walk through the wards with a bedside clinic on the most interesting cases, and after the hour there is often a post-mortem. Of the other children's hospitals in Vienna, they are either too small or too far from the centre of general medicine (*i. e.*, the immense General Hospital) to be of great advantage. In the course of a few months' study all the important diseases are seen, also many which are rare and unusual.

An interesting case of purpura hemorrhagica, or morbus maculosus Werlhofii, has been visiting the polyclinic lately. A boy, eleven years old, has on his body, arms, and legs those characteristic petechial spots. His face is only slightly marked. On the hard palate and nasal mucous membrane are also small extravasations. These are increased in number wherever the clothes bind against the body. He has hemorrhages from the nose and mouth.

His mother says the disease appeared suddenly. Under the use of iron and a meat diet he has improved, and the spots are disappearing. The slightest blow or contusion produces a large bluish-black extravasation.

A rare case presented itself of a recently-born infant with a cephalhematoma on each parietal bone, the suture being in a deep furrow between. Smith says that two such occur only in rare instances, and Henoch says he has never met with such a case.

Polypus of the rectum has not been infrequent in young children. This generally makes itself known by tenesmus and blood-streaked feces, which symptoms disappear on ligating the tumor.

The use of phosphorus in rachitis, and so highly recommended by Dr. Kassowitz, of this city, has met with varying success in these two institutions.

Professor Monti is much pleased with the hydrargyrum tannicum oxydulatum in cases of syphilis infantilis, and especially when hereditary. Dr. Sigmund Lustgarten, of the General Hospital, has published recently in the *Wiener Mediz. Wochenschrift*, a very interesting article on this preparation of mercury. He claims that it is more effective than many other preparations of the same metal, and that its use is attended with no unpleasant effects; also, in Professor Monti's experience with children, the presence of the tannin prevents the diarrhea, which so often occurs in the exhibition of calomel and other salts. His formula for infants is:

℞—Hydrarg. tannic. oxyd., 0.10 ad 0.20.
Sacch. alb., 3.00.
Div. in pulv. x.
D. S., a powder every 2 or 3 hrs.

The use of the breyanate of mercury in pseudo-membranous croup has not been attended with success in the St. Anna Hospital. Tuberculosis is so often present as a complication in many diseases, that it is often called here "Morbus Viennensis." In tuberculosis pulmonum, when suspected, and even in marked cases, koumyss has been used with some encouragement. W. B. C.

Current Literature.

1. Hygiene and Therapeutics.

Jacobi: The Medicinal, Mainly Mercurial, Treatment of Pseudo-Membranous Croup. (*Med. Record,* May 24.)

Dr. A. Jacobi reaches the following conclusions in relation to this subject:—1st. The mercurial treatment of pseudo-membranous affections of the respiratory organs is promising of great results. 2d. The corrosive sublimate is the preparation best adapted for internal medication. 3d. The system must be brought under its influence speedily, by frequent doses. 4th. It must be given in dilutions of 1 to at least 3000 to 5000. 5th. Babies of tender age bear one-half grain and more a day, and many days in succession. 6th. Salivation and stomatitis are rarely observed, and appear to heal kindly. Gastro-intestinal disturbances are not frequent; they are moderate, can be avoided by the administration of mucilaginous and farinaceous food, or of mild doses of opium. 7th. If not well tolerated, the inunction of sufficient and frequent doses of hydrargyrum oleate takes the place of the corrosive chloride, either together, or alternately with the internal administration. 8th. The treatment of croup may be preventive to a great extent. Most of the cases are complicated with, or descend from, diphtheria of the fauces. Here the preventive treatment of croup must begin. Without desiring to encourage mere local treatment, which, in unwilling patients, has to resort to force or violence, and thereby does great harm, I point to the peculiar local effect of mercury on the pharynx, both in the healthy and sick, as a means to influence the threatened invasion of the larynx.

Lee: Infantile Syphilis. (*Lancet,* June 21.)

Dr. Lee, in a lecture upon this subject, enters into the questions as to how the fetus infects its mother, and the different effects upon the fetus as the father or mother is affected with the primary sore, or the father has secondary symptoms at the time of its conception.

He gives the following references to the subject: Mr. J. Hutchinson's articles, "Communication of Syphilis from the Fetus to its Mother," *Med. Times and Gazette*, 1876, p. 643; "On Colle's Law and on the Transmission of Syphilis," *Brit. and Foreign Med.-Chirurg. Review*, 1877, p. 455; Fournier's work, "Syphilis in Marriage," and Diday's "Infantile Syphilis."

Thirty years ago, many doubted whether a woman could be infected through the ovum; at the present day, no one doubts the possibility. How does the fetus infect its mother? Mr. Hutchinson says, by "direct blood contagion." Fournier expresses ignorance as to whether it is through the blood, or by direct contact with the fecundated ovum, or some other special unknown method. Dr. Lee says, in the attachment of the villi of the chorion to the maternal organism, an absolute planting or grafting of the villi, which are portions of the infected fetus, into the maternal tissue takes place, no development of blood-vessels having as yet taken place. We recognize the fact that scarlatina, variola, ague, and probably other similar diseases, are transmitted from the mother to the fetus; why should not fetal influences pass in the opposite direction? In regard to Mr. Hutchinson's idea that there are three modes of infection, namely, acquired syphilis, inherited syphilis, and a new form, peculiar to the mother, derived from the fetus, Dr. Lee thinks that clinical facts are quite as strongly in favor of the disease being transmitted in different degrees as in its entirety. "It appears to me possible for a virus to produce a partial effect upon the human system, and not to complete in one immediate and continuous exertion of its influence all the effects which we are accustomed to associate with the idea of its entirety. There is the other view that the human system has been in a certain condition other than that of arrest of health, and that the full effect of the virus has been arrested or modified." The mortality is high in proportion to the number affected. In speaking from observation, he would think that, of seventy cases, ten would be fatal, twenty prolonged, and forty rapidly cured.

With respect to the effect upon the fetus of the primary affection (hard chancre) in the father and mother respectively, he quotes Fournier as follows: Of eighty-seven fathers affected with hard chancre, who married on an average five years after infection, there was no infection of either mother or fetus. Of forty-six mothers with hard chancre, there were fifty-eight conceptions and twenty-seven living children. With regard to the variety of symptoms: When symptoms of the disease appear very soon after birth, they are of a tolerably constant character, and are different from those which appear later. The most marked are the peculiar cachexia and the snuffling. The late symptoms are fewer and occur more rarely than might be expected. The most characteristic are the condylomata ani and gummata. These symptoms show themselves in infants who have had the earlier ones, and also quite as frequently in those who have not. The first set are generally associated with a history of rather recent infection in the father, whether the mother has shown symptoms of infection or not. The later symptoms occur when the date of infection of the father, at the time of conception, is more remote, and the mother has shown no symptoms; this, however, is only true providing the child has had none of the first symptoms.

Dolby: Education of Incurably Deaf Children. (*Brit. Med. Jour.*, July 12.)

There are a number of diseases which induce complete or partial and irremediable loss of hearing; and if the accident occur to a child before the age of seven or eight years, in the ordinary course of events, the child becomes dumb. The explanation is that, in whatever degree young children reflect, their thoughts are seldom formed to themselves with words. They depend for their thoughts so exclusively upon their immediate surroundings, that the relation of subject and acts to the words which denote them soon become dimmed and lost to them if they do not hear these words repeated. When a child has become suddenly deaf, he does not at once lose the facility of denoting objects by words, but the words are generally clipped and spoken with increased indistinctness as time goes on, until they become absolutely lost. The plan of education is as follows:

1. A child who has entirely lost hearing and can read, should be made to read several times a day, and taught lip-reading. The constant repetition of the words which it has already used will cause them to be retained by reading.
2. A child who has become totally deaf and cannot read, should at once be taught on the pure oral system, and words which it could pronounce will, by constant repetition, be retained.
3. If a child can understand words pronounced in its

ear—still better, if it can hear a raised voice—it can be taught to articulate new words by making use of the hearing. Its articulation, while becoming deficient, can be corrected, and efforts in this direction, added to lip-reading, will enable it to retain its speech.

These rules will not, of course, apply to children with cleft-palate, or those in whom sight is defective. It cannot be too urgently insisted upon that educational treatment of this character must be commenced immediately after the occurrence of the deafness.

Lee: Advances and Discoveries in the Contagious and Infectious Diseases of Children. (*Jour. Amer. Med. Association*, June 7.)

This was the subject of the address delivered by Dr. Lee, Chairman of the Section on Diseases of Children, at the last meeting of the American Medical Association. In regard to the treatment of diphtheria, he could bear witness to the good to be derived from the local applications of sulphur. He mentions also the bichloride of mercury treatment.

The probability of some cases of scarlatina being evolved from diphtheria is also discussed. Salicylic acid is interdicted when rheumatism is a complication. Cold baths, for antipyretic action, and also salicylic acid, according to Liechtenstein. Quinine may cause collapse. The danger of salicylic acid in this direction he considered imaginary. The remarks upon cerebro-spinal fever are taken chiefly from Professor J. L. Smith's article, which was abstracted in the ARCHIVES, Vol I., No. 2.

In typhoid fever, the transient variety often escapes notice.

In measles, the influence of malaria sometimes shows itself. The constant association of micrococci with the general manifestation of malignancy has been proved. A case of chorea and a case of prurigo were cured after an attack of measles; three cases of insanity during the course of, and in the convalescence from, measles. In a number of cases of Rötheln, the cervical glands were enlarged.

In regard to variola, a case occurring in utero is noted. In another case, the mother had the disease, but the child escaped until born, and then the discrete variety. Vaccinated children under ten years of age seldom are attacked; after twelve years, they should be revaccinated. The abortive action of actea racemosa upon the eruption is noticed. Salicylic acid is also said to modify the eruption.

In mumps, minute organisms have been found in the blood, which have been ascertained by inoculation to be the cause of the disease. Meningitis with orchitis is a more frequent complication than supposed.

In infantile diarrhea, so few autopsies have been made that the true etiology is doubtful. Erysipelas occurs from infection, as a rule, but is supposed sometimes to be due to idiopathic influences (which is hardly probable).

Whooping-cough is regarded by some to be due to specific germs; by others, to be an eruptive fever, in which the eruption is internal. Salicylic acid and chloral tend to relieve the paroxysms; belladonna and quinine to shorten the disease. Ergot has been highly recommended.

Lunin (St. Petersburg): **A Contribution to the Subject of Treatment in Diabetes Insipidus** (*Jahrb. f. Kinderh.*, B. XXI., H. 4.)

Notwithstanding the fact that the prognosis in this disease, in so far as a fatal issue is concerned, is not bad, there are few recorded cases of complete recovery. The author reports a case in a girl, eleven years of age, sick for nine years with the disease, and cured after two months treatment. Her family history was good. Great thirst and increased discharge of urine began in the third year of life, continuing, as stated, during nine years. During this period the child passed through attacks of measles, scarlet fever, and whooping-cough, none of which produced any perceptible influence upon the diabetes, nor were influenced by it. When the author began his treatment, the child appeared to be in very good general condition. Microscopical examination of the feces revealed ova of tænia mediocanellata. From nine to ten liters of water were drank daily, and seven or eight liters of urine were discharged, which was clear, yellow, and acid, and had a specific gravity of 1001. It contained neither sugar, albumen, nor organic or inorganic formations. No particular treatment was adopted for a month, with the exception of such as was necessary to effect the discharge of the tape-worm. At the end of that period salicylate of soda was given in five-tenths of a gram doses, three times daily at first, but soon afterward four times a day. In five days the discharge of urine decreased from 7,000 to 5,000 grams, at which point it remained stationary, even with an increase in the size of the doses of the soda salt. Next an infusion of valerian root, of the strength and quantity of five grams to a hundred of water, was given daily for twenty-three days. This brought the quantity of urine to 2,500 grams daily, at which point it remained constant for ten days. After this an infusion of ergot, of the strength and quantity of two grams of the spurred rye to one hundred of water, was given daily, which caused a reduction in the quantity of urine to 1,100 grams. After this point had been reached, the child went for three weeks without any medication whatever, and with no recurrence of inordinate urinary discharge. At the same time her body weight increased, her general condition was in every way improved, and the daily quantity of water drank was only one-half a liter. She was therefore discharged as cured.

Barthélemy: Hereditary Syphilis of Late Development. (*Arch. Gén. de Méd.*, May and June, 1884.)

This exhaustive paper has especial reference to lesions of the liver, and the conclusions which are reached are as follows: Hereditary syphilis of late development, like acquired syphilis, manifests within the liver four forms of lesions. These lesions are much more frequent than one would expect, considering the number of subjects who successfully resist syphilitic heredity. On account of this frequency, and especially on account of the possible cure of the patient if he be submitted to specific treatment, or of his death if this plan be not adopted, it will be very desirable in the future for clinicians to consider the possible existence of hereditary syphilis of late development in all cases of disease of the liver in which the cause is uncertain, the progress unusual, or the development extraordinary. This consideration will especially involve regard as to the age of the patient, and as to the absence, in his case, of morbid antecedents which are capable of explaining the production of a disease of the liver. It is necessary to realize, in short, that, after alcohol and malarial poisoning, it is hereditary syphilis which, not only in childhood, but also at a subsequent period, gives rise to the greatest number of hepatic affections.

Cassel: Treatment of Tussis Convulsiva, with Special Reference to the Specifics which are Used in Treating the Disease. (*Jahrb. f. Kinderh.* [from *Arch. f. Kinderh.*, Bd. IV., H. 9 and 10], Bd. XXI., H. 4.)

Three groups of medicinal agents are considered in discussing this subject: 1, Narcotics; 2, Antizymotics; 3, Purely empirical agents. In the first group: (1), Bromide of potash has not fulfilled the expectations of its advocates. Out of one hundred and twenty-two cases of the disease at the University Polyclinic, in Berlin, twenty-six were treated with this salt. In six the intensity of the disease was lessened, but its course was not shortened. (2), Belladonna is an old and reliable means of treatment. Of a solution of atropin containing .05 gram to 100 grams of water, three or four drops are recommended twice daily. Of the extract of belladonna, .01 gram may be given after the evening meal, and this quantity may be increased by a similar quantity every five days until the dose has reached .07 grams. Then, as the attacks of coughing become more and more infrequent, it may be decreased in the same manner. This drug stands in high favor with many authorities on account of its power in lessening the number and intensity of the paroxysms, and in shortening the convulsive stage. (3), Opium has no specific effect, and its use should be avoided as much as possible with children. (4), Chloral hydrate. Lorey recommends that two doses of this drug be given daily, one in the morning, the other in the evening, of from .25 to 1 gram. This author noticed an improvement as to the intensity and number of the attacks, and a shortening of the convulsive stage in from ten to twenty-one days. (5), Lublinski has combined extract of belladonna and chloral in an evening dose, and, in eight cases, produced shortening of the convulsive stage in nineteen days; in nineteen other cases the attacks became less intense. (6), Butylate of chloral has not yet been sufficiently used to pronounce a decision in regard to it. (7), Propylamin does not receive any particularly favorable comments. (8), Ether spray upon the neck, to influence the trunk and branches of the vagus, is of doubtful efficacy, though recommended by Lublinski. (9), Nitrate of amyl is quite disapproved of by the author. (10), Rossbach recommends the use of the continuous electrical current to the spinal cord in small children. Second class: (1), Quinine, large doses of the sulphate or muriate, are recommended by many observers. (2), Carbolic acid, either by inhalation or internally, is highly recommended by various authors, but no very definite data, as to doses, are recorded by the author. (3), Oil of turpentine, inhaled daily, has given very good results. (4), Petroleum is recommended for inhalation by Lesser and Hildebrandt, but the author does not endorse it. (5), Salicylate of soda and salicylic acid, by inhalation, produced a variety of results with different observers. They have been moderately favorable. (6), Phenylate of soda volatilized in the sick-room is highly recommended by Pernot. (7), Corrosive sublimate. No positive results have as yet been reported. Third class: (1), Extract of castanea vesea, obtained from the leaves gathered in the fall, is not a specific, but is well spoken of. (2), Oxalate of cerium, in one daily dose of .03 gram for children one year old, to .18 gram for children seven years old, is mentioned, but judgment is deferred. (3), Muriate of pilocarpine is mentioned rather as an abortive than as a specific, in very minute doses. Its effect does not seem to be positively useful. Other substances mentioned are ammonium picrate, calomel, mercurial inunction, and tincture of myrrh, but none are very highly approved.

Radcliffe: The Treatment of Diphtheria by Alcohol. (*Med. Times*, Philadelphia, June 14.)

The employment of alcohol in the treatment of diphtheria is not new, but it should be given in full doses and without stint, as in this disease it produces no stupefaction and no injurious effect on the cerebro-spinal system, even in little children. The reports of almost all successful cases have shown that the favorable results were due mainly to alcohol. Whether as a cardiac stimulant, or as a germ-destroyer or disinfectant, it is an all-sufficient combatant. Whatever the physiological action of the drug, it becomes absorbed into the circulation, and as the materies morbi exists in the circulation, it may act as a germicide and disinfectant both on the fluids and on the exhalations from the lungs. Through the nerve-centres it is also a cardiac tonic, and as a food it supplies pabulum for exhausted energies.

CASE.—Girl, aged four and a half years; when first seen, pulse 140, temperature 104.2°, respiration 40; tonsils and half-arches highly inflamed; grayish, pultaceous diphtheritic membrane on each tonsil, uvula, and pharynx. Painted parts generally with muriated tincture of iron; gave some internally with potas. chlorat; gave also ammonium acetat. and spts. ether nit.

Second Day., A.M. Pulse 144, temperature 104.5°, respiration 46; deposits more extensive.

Third, A.M. Occasional hoarse, muffled cough, breathing difficult; temperature 103.6°, pulse 140, respiration

40; patient restless; continued treatment with the addition of lime-water spray to the throat.

Fourth, a.m. Swallowing more difficult; pallor, puffy face, membrane darker and peeling off; temperature 103°, pulse 146, respiration 42. Changed treatment to four grains sulpho-carbolate of sodium in glycerine and water, every two hours; also one tea-spoonful every three hours or oftener, until four ounces are taken during twenty-four hours.

Fifth. Symptoms more aggravated; directed zinc sulph. gr. v. every five minutes until vomiting; after the third powder, vomited some membrane with some relief; brandy pushed to the utmost.

Sixth. Great dyspnea; breathing abdominal, almost total collapse of lungs; treatment continued, with increase of brandy.

Seventh. Better, membrane disappeared.

Eleventh. Improvement has been slow, but progressive; brandy continued in full amounts; has taken forty ounces in eight days without intoxication or stupefaction.

Sixteenth. Convalescent; partial paralysis of local organs, and for two months voice coarse and guttural.

It is worth considering whether, in the absence of all other remedies, diphtheria could not be successfully treated with alcoholic stimulants alone. Brandy is more palatable to children than is whisky.

Rackwitz (Strassburg): **Treatment of High Degrees of Paralysis in Children.** (*Jahrb. f. Kinderh.* [from *Deutsche Ztsch. f. Chir.*, B. XIX., H. 2 and 3], B. XXI., H. 4.)

Four cases of spinal paralysis of severe form in children are reported by the author in this paper. Case I.—A girl four years of age. Paralysis of all the extremities came on suddenly, also of the body and tongue, and paresis of the bladder and rectum. After four weeks the paralysis of the arms and tongue passed away, and in two weeks later motion was possible in one of the legs. After this period there were serious secondary disturbances, lordosis of the lumbar vertebræ, contracture of both legs, and sub-luxation of the inner condyles of the femora. The glutei and the muscles of the thighs became atrophic, without a trace of electro-muscular excitability, the same condition appertaining also to the lower portions of the muscular structures of the back. The muscles of the upper part of the body and of the shoulders still responded to the electrical current. *Genu valgum* affected both knees; both feet were clubbed, and there was also no electrical response in the muscles of the lower part of the thigh. The treatment consisted in tenotomy of the fascia, of the sartorius, and the tensor vaginæ femoris, and all the muscular fibres which were concerned in the forcible extension of the hip-joint, the patient having first been anesthetized. Next a water-glass extension splint was applied, including also an appliance for the correction of the club-foot. Next an extension bandage was applied to the body. Next tenotomy of the Achilles tendon. Next a corset with shoulder-bands, and protective apparatus for the thighs and legs, with shoes attached, abduction and flexion movement at the hip-joint, and flexion at the knee-joint. Finally faradisation and warm-baths daily. Three days after the application of this armor the child began to walk about. Case II.—A girl four years of age, with extensive contracture of the lower extremities, but the muscular structure responded to electricity. The treatment consisted in tenotomy, extension-bandages, galvanization of the glutei, and a protective apparatus of a less complicated nature than that which was used in the former case. Case III.—Complete paralysis of the right leg and incomplete of the left followed an acute exanthematous fever. There were also clubbed feet, atrophy of the muscles of the leg and of the extensors of the thigh, and shortening of the right leg to the extent of six centimeters. Galvanization and warm baths arrested the atrophic process, and after tenotomy and bandaging a protective apparatus was fitted, which enabled the child to walk without crutches. Case IV.—The child was five and a half years old, and had been paralyzed since its second year in both lower extremities. There was atrophy in both legs, flexion and adduction in both thighs, *genu valgum* and *talipes equinus* on both sides. Electrical excitability remained. After suitable preparation tenotomy of the biceps was performed, being preceded by section of the adductor tendons on both sides, in the vicinity of the pubic bone, section of the Achilles tendon, and the application of water-glass bandages. After further treatment with galvanization, the child was enabled to stand and walk without a cane. This last case was an illustration of Erb's spastic-spinal paralysis. Massage and proper gymnastics were also used as occasion demanded in the treatment of the foregoing cases.

Clark: Notes on Practice. (*N. Y. Med. Jour.*, June 7.)

Liquor Ferri Subsulphatis in Diphtheria.—For the past twenty years, Dr. C. C. P. Clark has used nothing but Monsel's salt as a local application in diphtheria, and has come to regard it as an almost sovereign remedy, both topical and constitutional, in the treatment of this complaint. Diluted with water to one-half strength, it is to be painted thoroughly twice a day over the diphtheritic patch and the surrounding mucous membrane with a camel's-hair brush, or fine, soft swab. A full, quiet, and continued exposure of the parts must be had; the patient, if a child, must be firmly held. To daub the medicine somewhere into the back part of the mouth or down the gullet will by no means answer. This salt is in no way a caustic, nor any disinfectant, nor even, so far as the author knows, a poison to bacilli. But it is a mighty astringent, and seems to operate by puckering the life out of the diphtheritic deposit, and sucking or squeezing the bad juices out of the living parts adjacent; not but that the patch or patches of false membrane are apt, notwithstanding, to reappear even again and again, and not seldom with enlarged area, but always with less density and diminished rankness of look. Unfortunately there seems to be no safe way of effectually applying this remedy within the larynx, so that it is of no use when the disease has invaded that part. Neither is it claimed to be a specific, but only that it is a very good thing.

Chlorate of Potash a Specific in Tinea Tarsi and Porrigo Favosa.—The doctor once had a case of tinea tarsi in a little girl. In spite of all the treatment recommended in the books, the morbid condition of the meibomian glands persisted in pouring out their sticky exudation. Considering its efficacy when internally exhibited as an alterative in certain affections of the mucous membranes, particularly of the mouth and throat, the patient was given full doses of this medicine—about a drachm per diem. It worked like a charm. Repeatedly the disease returned, as is its wont, and was as often and as readily subdued. He has since constantly used this medicine in that complaint, and has never been disappointed.

Not long after a lad was brought to the doctor whose scalp was thickly bossed with huge stinking, porriginous scabs. Reasoning from what was seen in the last-mentioned case, the same remedy was used to stay the morbid secretion in this, and with like good effect. The crusty hummocks disappeared, as a syphilitic node sometimes will under the use of the iodide of potash, only far more rapidly. He who tries this remedy in this disease, in full doses, will not turn again to the scalp-shaving, poulticing, etc., which is the customary practice.

Hullman (Halle): **Chlorate of Potash and Diphtheria.** (*Jahrb. f. Kinderh.* [from *Deutsche Med. Wochen.*, No. 46], B. XXI., H. 4.)

The author has not lost his faith in this substance as a means of treatment in diphtheria, notwithstanding the fact that it may not have done well in others' hands when given in poisonous doses. He never uses a stronger than a four per cent. solution, and never combines its internal use with its use as a gargle. He has never seen unfavorable kidney symptoms, in his practice, from its use, and combines with it plenty of nourishing food and good wine. During twenty years, he says, he has used it in thirty-five hundred and eleven cases, five hundred and seventy-one of which were cases of diphtheria. Only six of the latter were fatal, or about one per cent. In patients from one to two years of age, the doses never exceeded one gram each day; in patients from six to thirteen years of age the dose varied from three to four grams daily, and in adults as much as eight grams daily were sometimes given. These quantities were often continued from six to eight days successively. In cases of diphtheria, in addition to the internal use of chlorate of potash, frequent garglings were prescribed of lime-water, soda solutions, or weak solutions of hypermanganate of potash, the results being quite satisfactory. The author believes that chlorate of potash is the best of all the agencies which have been used for the treatment of diphtheria, especially when it is given in accordance with the directions of Mering, the chief of which is that it must not be given upon an empty stomach.

Blondeau (Paris): **The Dangers of Premature Weaning.** (*Jahrb. f. Kinderh.* [from *Rev. Mens. des Mal. de l'E.*, Oct., 1883], B. XXI., H. 4.)

Of nine hundred and ninety-three deaths reported in Paris for the third week in July, 1883, three hundred and thirty-seven were of children, and two hundred and fifty of these were of ages ranging between a few days and two years. One hundred and seventy-eight of them perished from athrepsia, and of these one hundred and nine had never been nursed. Fifty-five were three months old, thirty-three were from three months to a year, and twenty-one were between one and two years of age. Sixty-one of the one hundred and seventy-eight were nourished with breast-milk, or upon a mixed diet. Thirty-two of these died at the age of three months; twenty between the ages of three months and a year; nine between the ages of one and two years. The cause of this great mortality in early childhood is thought to have beem premature weaning. The author is supported by Trousseau in his belief that weaning should be deferred until the canine teeth appear.

Prevention of Blindness. (*Lancet*, June 14.)
The Committee of the Ophthalmological Society appointed to inquire into the prevalence of blindness resulting from a preventable malady—ophthalmia neonatorum—reported as follows: In the Belfast Blind Institution, thirty per cent. of the inmates owed their condition to ophthalmia neonatorum; the London Society for Teaching the Blind to read gave the same percentage; the Blind School at York forty per cent.; and at Hull thirty-five per cent.; in twenty-two German Blind Asylums 30.5 per cent.

McCallum: Secretion of Milk in the Male Breast. (*Brit. Med. Jour.*, June 14.)
Dr. McCallum reports two cases in boys, in both of whose breasts a milky fluid could be made to exude by pressure upon the nipple. Both boys were masturbators.

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2. MEDICINE.

Trousseau: The Various Forms of Chorea. (*Le Concours Médical*, June 14, 1884.)
Trousseau preferred the term St. Guy's dance (danse de Saint Guy), as being a shade more definite and specific than the term *chorea* (dance). The disease is frequently not seen by the physician at its beginning; its origin and primary symptoms are therefore, in many cases, unknown. It is defined by Axenfeld and Huchard as "a complex neurosis of subacute or chronic progress, most commonly occurring among children, its principal and characteristic

attribute being the almost incessant production of involuntary muscular contractions." Its development is usually gradual, beginning with certain phenomena of spinal irritation. Paralysis (motor) may be associated with the disease. It may precede the choreiform movements, or it may occur in the course of the disease, in the latter case existing as an hemiplegia or a monoplegia. Troubles of sensibility are rare, although cases are recorded in which there have been painful points (*points douleureux*) like neuralgia, and localized pains near the extremities of certain bones. The moral and intellectual faculties may be perverted even to insanity. Attacks of palpitation of the heart are not infrequent, possible causes being excitation of the cardiac muscle, or the existence of a condition of chloro-anemia. The co-existence of this condition with heart-disease, rheumatism, and certain morbid conditions of the skin, has suggested a rheumatic origin, but this explanation is not generally accepted. The ordinary type of the disease is sometimes found in adults, in aged persons, and in pregnant women, and is apt to be of more serious significance than when it occurs among children. Differing from the ordinary form of chorea (St. Vitus's dance, St. Guy's dance) are the forms chorea electrica and chorea hysterica. The choreiform movements of hysterical individuals may be associated with ovarian anesthesia or hyperesthesia. According to Huchard they manifest certain rhythmical movements of a constant type, and from the peculiarity of these movements three varieties of hysterical chorea are derived, which Huchard calls respectively saltatory, salutatory, and rotatory. *Chorea electrica*, or Dubini's disease, is characterized by muscular jerkings, like those which are produced by the electric current. It may be fatal after a few weeks' duration. Its nature is not yet positively determined upon, different writers having suggested an abnormal meningitis, a particular form of cerebro-spinal typhus (Jaccoud), or a variety of paludal intoxication (Stefanini). Another type of chorea, with sharp and rapid involuntary movements, is sometimes mistaken for Dubini's disease. Seé considers this as a manifestation of hysteria or of nervousness, characterized by rhythmic spasms. He gives it the name of *rhythmic pseudo-chorea.* Yet another form of the disease is hemichorea, which is associated with hemiplegia, though in some cases the hemichorea precedes rather than follows the hemiplegia. To this form the term preparalytic hemichorea has been given. Finally, a form of post-hemiplegic hemichorea is recognized in athetosis, a disease which was first described by Hammond.

Frew: Epidemic Cerebro-Spinal Meningitis. (*Glasgow Med. Jour.* July, 1884.)

Mr. Frew reports seven cases of which he has notes, all occurring in or near the town of Galston (twenty miles south of Glasgow), a place of 5,000 inhabitants. The sanitary habits of the people are bad, being miners, and the local sanitary conditions could hardly be worse, and yet the disease seemed to have been propagated by contagion, except the first case, which appears to have started *de novo.* The sanitary condition of the town is thus described: "The town is low, lying on the left bank of the river, several streets in the lower part being almost on a level with the river-bed, which is also unnaturally raised by a dam which stretches across it at the lower end of the town. The death rate is 15 to 18 per 1,000. The water-supply is from wells, and is plentiful. The whole of the sewerage of the lower quarter of the town is led into an open ditch, and during the past winter subsidences have occurred, with the result that the flow has been interfered with, and the sewerage has saturated the surrounding soil to such an extent as to form, in certain places, a morass.

The youngest patient (sex not given) was one year old, and died in fourteen hours. The child had been suffering with whooping-cough and was teething.

Another child (sex not given), one year and two months old, died in three days.

A boy, three years and ten months old, died in two days.

A girl, five years old, died in fourteen hours.

A girl, seven years old, recovered.

A girl, eight and a half years old, died in thirty hours.

A girl, ten years old, recovered.

All were taken ill suddenly. All began with vomiting, and the majority with headache. The younger children trembled or quivered. One was semi-comatose at the first. One only had a "measly rash." Several had petechiæ before death.

In five cases the temperature was taken, and the highest was 104.5° F., the lowest 103° F. The average temperature at the commencement was 104° F. All had delirium, or coma, and convulsions.

The treatment, when possible to be given, was bromide and iodide of potash with tincture of digitalis in one case, and in another, tincture of aconite and belladonna, with bromide and citrate of potash.

Direct communication could be traced in all the cases but two.

Two autopsies were made in which the meninges of the brain and cord were found intensely hyperemic, with cero-pus beneath them.

A number of cases (six) of a light form occurred at the same time. The prodromata were similar to the severe cases, but they recovered in a few days.

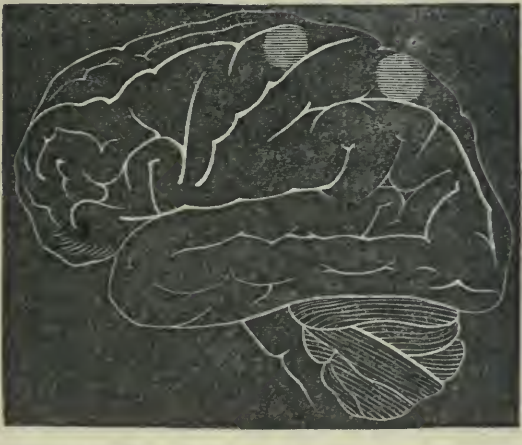
Nettleship: Recovery from Amaurosis in Infants. (*Med. Times and Gaz.*, June 14.)

Mr. N. read a paper before the Opthalmological Society upon partial amaurosis in infants. He said there was a fairly-defined field where the amaurosis was not recovered from. In these, the sight was absent or defective from birth. Several children of the same parents were affected, the parents being akin; the intelligence was more or less affected; the optic disks were either healthy or atrophied. In cases of absolute blindness, the pupils still reacted to light; in the milder cases, where sight was partly retained, there was total color-blindness. In cases in which recovery took place, it was generally stated that the child had seen well for some months or even years after birth, and then lost its sight after an illness with cerebral symptoms, often diagnosed as meningitis. The blindness lasted from one to six months, recovery taking place slowly. He thought that, in all these cases, intracranial hemorrhage took place, and perhaps spinal. The mode by which the blindness was produced must remain in doubt until examination had been made in the early stage of the blindness; possibly it might be due to intracranial pressure.

Finlayson: Pulmonary Phthisis with Yellow Tubercular Deposits in the Brain. (*Glasgow Med. Jour.*, July, 1883.)

A girl, aged four years, who did not seem very ill, was admitted to the hospital, having signs of bronchitis with slight feverishness. She was said to have had a cold for two months previously. Eight days after admission, the evening temperature suddenly rose to 102° F. She cried out, and was found with the right arm paralyzed; she seemed dazed, and complained of the arm. An hour later, there were convulsive movements of the right side of the face, arm, and side of the chest, frothing at the mouth, and hurried respiration. The head was turned to the right shoulder, both eyes turned to the right in the condition of nystagmus, pupils dilated, face pallid, pulse feeble, and completely unconscious. The child was put in a hot bath, and cold applied to the head, but when removed syncope was so great that hypodermics of ether and brandy were given. Temperature per rectum, 106.6° F. The convulsions continuing, chloroform was given, which rendered them less violent; cold also was applied to the entire body, and finally they ceased. Temperature, three-quarters of an hour after application of cold, 103.2° F. Shortly afterward she became conscious, and slept considerably. The following day she complained of headache, and gradually improved, so that three days afterward she could almost stand alone. She continued feverish, her cheeks often being flushed. Her condition remained the same for nine days, when she had a troublesome cough, and examination showed dullness and bronchial breathing at both apices. The fever after the convulsion was of a remitting type. Morning temperature, 99° F.; evening, 103½°. During the last four days the temperature declined. Eleven days after the lung-trouble began to be noticeable (being twenty-three days after the first convulsion), ten convulsions took place, similar to

FIG. 1.

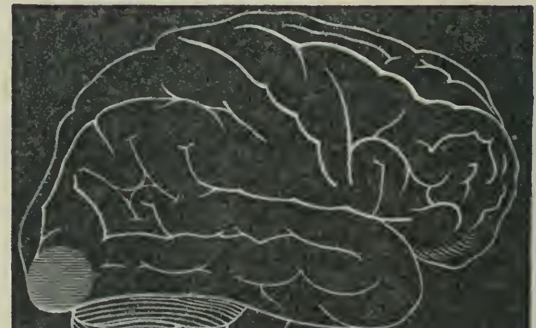


View of left side of brain, showing the situation of the two lesions of the brain found there.

the first, except that consciousness was not lost at first, and the later convulsions were not so extensive or severe. Chloroform was used for the more violent ones, and controlled them. She died twenty-seven days from the time of the first convulsion.

Autopsy: Lungs, right consolidated and filled with cheesy masses and a few small cavities; left, not to so great an extent. Bowels, not ulcerated. Mesenteric glands, enlarged and a little curdy on section. Brain, between the summit of the left anterior parietal convolution and the longitudinal fissure there was a patch of yellow tubercle; another behind the posterior parietal convolution, at the margin of the long fissure, extending over its edge (Fig. 1). The tissue under the patch was soft; on the right side, a large patch at the tip of the occipital lobe (Fig. 2). The rest of the brain was normal. No bacilli were found in any of the lesions.

FIG. 2.



View of the right side of the brain, showing the situation of the lesion found there.

Remarks: When the convulsions occurred, the first idea was that meningeal hemorrhage had occurred on the left side. When, however, it became clear that a pulmonary affection, with consolidation and crepitus, had become developed, a reconsideration of this view seemed called for. The lesion on the left side of the brain seemed to account very well for the convulsion of the right arm. The posterior patch would have led to the expectation of the lower limb being convulsed or paralyzed, but none occurred. The very marked deviation of the head and eyes led to the suspicion that some deeply-seated lesion would be found, but there was none.

Filataff (St. Petersburg): **Influenza during Childhood.** (*Jahrb. f. Kinderh.* [from *Medic. Oborsen.*, June, 1883, pp. 44–70], B. XXI., H. 4.)

This disease (Grippe) has received scant attention in the text-books of pathology and treatment of the diseases of children. No difference between it and simple bronchitis is, as a rule, remarked in the books, excepting that it (influenza) is an epidemic disease. The author has described the disease with considerable minuteness. His definition is that influenza is a febrile epidemic catarrh, which attacks simultaneously or in succession the mucous membranes of several organs. Hirsch thinks that it occurs independently of temperature or climate, differing in this respect from coryza and bronchitis, and yet that it prevails most frequently in winter. Aside from the element of miasm, which may or may not be a factor in its causation, it is likely that it is propagated by a *contagium* of some sort. Its marked epidemic character supports this opinion. The younger the child, the more severe the disease is apt to be, prevailing most frequently among children between the ages of six months and five years. Taking cold has more or less influence in developing the disease; thus the first subject of it in a family may be attacked soon after he has contracted a cold, but it may spread to the remaining children of the family without such a preliminary incident. The period of incubation is from one to three days. As to the symptoms and course in most typical cases, the author has noticed an afebrile prodromatic stage, with coughing and cold in the head. This stage lasts from a few hours to a day and a half, after which there is a sudden rise of the temperature of the body. There is next, in some cases, a continuous remittent fever, with mild morning remissions and evening exacerbations, the curve varying between 39° and 40.5° C. The catarrhal symptoms extend rapidly from the nose and pharynx to the bronchi, and may develop into pneumonia. The fever usually lasts in such cases from one to two weeks, and terminates in a crisis, which lasts from one to three days. In other cases the disease progresses more slowly, the catarrh extends gradually downward from the nose, the temperature curve is irregular and varying, high temperature alternating with normal. This form of the disease may last for several weeks. The disease is distinct from bronchitis in the frequency and violence of the cough, and its longer duration before expectoration occurs. Pains in the ears are often observed in the early stages of the disease, but they disappear, as a rule, in a short time. Sleeplessness and irritability are marked nervous symptoms. Delirium is not infrequent, especially during the first night. These facts may be useful in differentiating from typhoid fever. If the type of the disease is the one with continued fever, and pneumonia occur as a complication, the latter will take the form of a croupous pneumonia, and follow a somewhat more protracted course than is common with that disease. Should pneumonia complicate the other form of influenza, namely, the one of slower development and atypical fever, the course of the pneumonia will also be very slow, one focus of inflammation following another, constituting the so-called *pneumonia migrans.* This variety occurs most frequently with nursing children and those who are from two to three years of age. The emaciation and hectic, which accompany this form of the disease, often suggest tuberculosis, and in some cases this does, in fact, exist. As to differential diagnosis, acute simple bronchial catarrh is chiefly to be considered, and influenza is to be distinguished, (1) by its propagation as an epidemic; (2) by the simultaneous affection of the mucous membranes of other organs; (3) by the intensity of the fever and cough, which are not like those of ordinary catarrh; (4) by the long duration of the catarrh; (5) by the participation of the nervous system in the disease. The moderate reddening of the pharynx, without the presence of points or patches, will distinguish it from measles. In addition the frequent sneezing of measles is absent. Should the influenza co-exist with continuous fever and diarrhea, typhoid fever may be suspected. But in the former the cold in the head will persist from the beginning, while the coughing will precede the diarrhea, and the extraordinary irritability of the patient will be a pronounced feature. As prophylactic treatment, protection from colds is recommended, and also cold baths. With delicate children, a prolonged sojourn in the country will have a prophylactic effect. Large doses of quinine at the beginning of the disease sometimes have a curative effect. Apomorphia is recommended for the dry cough. When pneumonia of long duration has complicated the disease, a change of climate is urgently demanded.

Adams: Incontinence of Urine in Children. (*Amer. Jour. Obstetrics*, June.)

Dr. Samuel S. Adams finds that in 1784 the pathology of this affection was understood as well as now. From birth the child instinctively voids its urine, and we take it for granted that the act is reflex. The rule is that about the eighteenth month the child is taught to exercise complete control over the sphincter. Children are often punished for incontinence, but there must be a pathological condition to account for an act that makes nature an abhorrence to herself, and it is our duty to seek diligently for it and remove it. In many cases the act continues untreated until well-marked psychical changes take place, and the child, bright and cheerful by nature, becomes morose, restless, and nervous. We generally find the disease divided into three varieties. In the first class the subjects suffer from a constant dribbling of urine day and night. The doctor has met with but two cases of this kind, in boys about eight years of age; in each case examination revealed a vesical calculus, which being removed, the function of the bladder became normal. A second class comprises those whose incontinence is intermittent in character, and occurs in the day as well as at night. This is the form usually met with in the girl. The urine is retained for a short time during the day, when the desire to void comes, but before a convenient place is reached, the sphincter is overcome and the child is powerless to prevent the flow. The cause in these cases was found to be vulvitis or urethritis, as a result of the irritation from ascarides in the vagina. The third class is the one that interests us most, because of its frequency in both sexes, its nocturnal character, its possible concealment for years, and the promptness with which it yields to treatment. The children urinate before retiring, and yet about midnight, during a profound sleep, the urine is passed again, or just before rising in the morning the contents of a full bladder are involuntarily set free. Patients of this class generally dream of urinating, and in boys it takes place during erection of the penis. In some obscure cases of incontinence, the accident is attributable to causes that favor a perfectly physiological process in the adult. Late suppers, profound sleep, amorous dreams, and many such causes, produce a nocturnal pollution in the adult, and the same causes excite irritation in the child; but, instead of the seminal discharge, the physiological process of which is not yet established, the bladder is emptied.

In each instance the discharge is the result of a conservative process of nature to relieve the irritation. Frequently enuresis goes on undisturbed until the full establishment of the sexual functions, when it is superseded by nocturnal pollutions. Incontinence most frequently exists in children between eight and twelve years, but may occur at any time between two years and puberty. Trousseau was the first to trace a relationship between incontinence and epilepsy, claiming that in rare instances one succeeded the other. In a few cases of occasional nocturnal incontinence, the cause may be an overloaded stomach or bowel, intestinal worms, hip-disease, adherent prepuce, or amorous dreams. In cases of phymosis, the nocturnal incontinence is due to reflex irritation. The irritant is often the smegma behind the corona, which keeps up a constant irritation. In other cases, owing to the contracted orifice of the prepuce, the bladder becomes tired from prolonged expulsive efforts, and relaxes before it is emptied. As a result there is frequent urination during the day, and at night the spinal centre responds to the irritant by involuntary micturition. The doctor does not approve of the use of chloral with children. The bromides take foremost rank in the treatment of those cases in which an exalted nervous condition can alone account for the incontinence. They should be given in large doses at bedtime. Belladonna is the remedy *par excellence* in the treatment of those cases believed to be associated with a tonic spasm of the bladder. It should be given in large doses at bed-time, increased drop by drop, daily, until improvement results or its physiological effects are obtained. If there is a relaxation of the sphincter vesicæ, or paresis of the muscles of the bladder, strychnia is indicated. When the prepuce cannot be retracted, circumcision should be performed; but sometimes, while the opening in the prepuce is large enough, it cannot be retracted owing to adhesions. In such cases, if these adhesions are broken up, favorable results will follow.

3. SURGERY.

Tracheotomy in Diphtheritic Croup. (Editorial, *Med. Record*, June 14.)

At a series of meetings held at the Academy of Medicine to discuss the treatment of diphtheritic croup, the large number in attendance showed the great interest taken by the profession in this subject. One noticeable feature was the general scepticism as to the utility of solvent inhalations in the destruction of the false membrane. One distinguished gentleman present, however, thought that, by a faithful use of the spray, about one in eight cases might be saved. There is apparently some uncertainty attending this mode of treatment. The pseudomembrane is composed of several different elements, which may yield relatively to different solvents; but as we do not know in any case which of the components of the membrane preponderate, we cannot be sure that the best inhalation is in use. It is also uncertain how much of the inhalation actually reaches the larynx in young children. Probably all will agree that, despite the best medicinal treatment, most cases of diphtheritic croup will die if no operation is performed. The important question is, whether the operation itself affords enough chances of success to warrant its frequent performance. The older statistics are rather disheartening; but in the past two or three years much better results have followed the performance of tracheotomy. This improvement in results is due partly to the improved treatment of diphtheria by alcohol and large doses of tinct. of ferri mur., and partly to our learning more about the operation and its after-treatment. Morell Mackensie stated, in a lecture delivered on diphtheria in this city, that when the dyspnœa was sufficient to cause much recession at the epigastrium, the operation should not be delayed. Granting that occasionally a case might have recovered without a tracheotomy, we know the vast majority die if not operated on, and the operation had better, in rare instances, be performed without absolute necessity, than that, in the great majority of cases, its dangers be increased by too long delay. After the operation a physician or trained nurse should be in constant attendance. The tube must be kept absolutely free from mucus and shreds of membrane by frequent cleansing in a disinfecting fluid. At the same time the supporting constitutional treatment of diphtheria must be continued. Within the past few years physicians in this city have saved one-fourth, one-third, and even one-half of their cases after tracheotomy.

Snell: Congenital Defects of the Eye. (*Med. Times and Gazette,* July 12.)

1. An infant a few weeks old. In the left lower eyelid a large cyst with bluish tint was situated, extending deeply

into the orbit. On being tapped, the fluid escaping was straw-colored and corresponded on analysis to that examined from similar cases recorded as "congenital cysts with anophthalmos." Subsequently the cyst-wall was partially excised, and it was thought that a rudimentary globe was detected at the back of the orbit. In the right lower eyelid there seemed to be a very small cyst; it was not tapped, and a year later it was hardly apparent. At a later period there were thought to be indication of a rudimentary globe. Both orbits were normally developed and completely lined with conjunctiva.

2. Congenital cyst in lower lid with micro-ophthalmos. The cyst filled the orbit; after being dissected out a micro-ophthalmic eye came into view. The cornea was well formed; there was a coloboma at the lower part of the iris, and the eye was apparently possessed of some vision. The coloboma extended into the choroid, but did not reach the optic disk. The cause advocated by Van Denyse was that they arose from the encysting of staphylomatous coloboma, which was held to correspond with the association of micro-ophthalmos.

3. Absence of eyeball on one side.

4. Micro-ophthalmos of the left eye, with coloboma of the optic-nerve sheath, and coloboma of the choroid of the right eye. The fundus of the left eye displayed the rare condition described as coloboma of the optic-nerve sheath; the coloboma was six or eight times the size of the optic-nerve. In neither eye was there a cleft of the iris. Nystagmus affected both eyes.

5. Remains of a hyloid artery. Both eyes were myopic.

6. Coloboma of upper eyelid situated at the junction of the inner with the middle third. There was also a lipoma of the conjunctiva.

Turetta: Spina Bifida Cured by Elastic-Ligature. (*Jour. Amer. Med. Ass'n* [from the *Giornale di Clinica e Terapia*, of Messina], July 19.)

A female child, two months old, had a tumor as large as a small apple situated in the middle line, opposite the two last cervical vertebræ. It was supported by a pedicle an inch and a half in circumference. The tumor was soft and fluctuating; under strong pressure it diminished in size, causing the child to cry and to produce slight convulsive movements of the limbs. No other deformity was present, nor was there any paralysis. An exploratory puncture gave exit to a thin, transparent liquid of alkaline reaction. The tumor shrank, and the aperture was closed with iodoform collodion. In twelve hours it had refilled. It was now half emptied in the same manner, and the pedicle constricted by a couple of turns of elastic ligature. At the moment of constriction the child cried, became livid, and some clonic movements were excited, but in a few hours it took the breast and rested. Up to the sixth day there was vomiting, and a tendency to coma and twitchings of the upper limbs, but after this they did not return. The ligature separated on the twelfth day, and the wound had healed on the twenty-seventh day. Dr. James Weaver, in a note, refers to cases, which were reported by him in the *Lancet,* 1870, exactly similar.

McLaren: Amputations at Hip-Joint. (*Brit. Med. Jour.,* June 7.)

Dr. R. McLaren reports three cases of amputation at the hip-joint for necrosis of the greater portion of the femur. The first case, a boy aged ten years, at first did well, but a week after an abscess formed at the anterior superior spine of the ileum, which was opened, and extensive disease of the ileum found. Died from exhaustion on the twenty-sixth day.

The second case was a boy aged six years, in whom the whole of the shaft of the femur, except the lower epiphysis, was necrosed. Stump healed in five weeks.

The third case, a girl aged twelve years, in whom exsection of the head of the bone was performed; a large portion of the pelvic bones were found bare, and the discharge continued profuse; albumen became present in the urine, diarrhea, enlarged liver, and marked emaciation resulted. Eighteen months afterward, having somewhat improved, amputation was done, and recovery took place.

All the operations were those of Mr. Furneaux Jordan. Dr. M. prefers Davey's lever for controlling the hemorrhage. He speaks of a method by Mr. Jordan Lloyd, in which a roller-bandage is placed over the site of the external iliac artery; then two yards of Martin's rubber bandage are doubled and carried between the thighs, and each end pulled upward and outward to a point above the centre of the crest of the ileum, and tied. The anterior portion controls the artery by pressure upon the bandage, and the posterior portion the branches from the internal iliac. These operations were not performed with strict antiseptic precautions. A table of twenty-five amputations at the hip-joint is given, but all are not children.

Banks: Radical Cure of Hernia. (*Med. Times and Gazette,* July 5.)

Nearly all cases of congenital inguinal hernia occurring in children are curable by the prolonged wearing of a truss, and in the case of respectable parents, who can afford to purchase good instruments and have the intelligence to apply them, no further treatment need be contemplated. The great difficulty with bad congenital inguinal hernia is in the infants of poor people, who seldom can get good trusses, and who are too ignorant or negligent to apply them properly. Before performing any operation for the radical cure, every possible means should be tried to secure the wearing of a truss. The following case was operated upon: A boy, aged two and a half years, a thin, miserable, pallid creature, had a double scrotal hernia, and, as he was always yelling and crying, the scrotum looked generally as if it was at bursting point, while the inguinal apertures were greatly dilated. Spantou's operation was tried on the left side, the screw being kept in for about twelve days. A good deal of suppuration and thickening resulted. For some weeks it seemed as if this was going to succeed, but by degrees the adhesions gave way and the gut came down as badly as ever. On the right side the sac was removed, except a portion which was retained and sewn together, so as to make a tunica vaginalis, the ring was then sewn up. In three months' time it was found that the bowel could not force itself down. The left side was then treated in the same manner, and two and a half months after the operation held thoroughly. There was no impulse on coughing, yet the child was fitted with a truss to make the matter sure.

Hill: Outward Rotation of Lower Extremities; Heels Pointing Forward. Development of Complete Control. (*Brit. Med. Jour.*, July 12.)

A female child, six and a half months old, had the following deformities: The right biceps cubiti could only be extended to such an extent as to leave the elbow at an angle of 145°. The left was also slightly shortened. There was no nail on either thumb (the paternal grandfather and father having none). The lower limbs were so everted at the hips that the heels looked directly forward. The child could rotate them with help, and flex the thighs upon the abdomen. There was no dislocation of the hips. There was no perceptible deformity of the articular surfaces of the tibia or femur. Flexion of the knee was natural, but the joint could be extended beyond the straight line until the toes touched the abdomen. The toes could touch the outer side of the leg, while flexion of the ankle-joint was very limited. A pelvic band, with outside irons jointed at the hips, knees, and ankles, was applied. A month afterward the tendines Achillis were cut. After the lapse of two years all instruments were discarded. When she was six and a half years old, she could run, hop, jump, and had complete control over her limbs. The deformity was due partly to defective structure of the knee-joints, the crucial ligaments being only partially developed, as well as the ligament of the patellæ, and partly to faulty position of the child while in utero.

Cameron: Talipes Equino-Varus, Acquired. (*Lancet*, May 24.)

A boy, thirteen years of age, two years previously, had injured the heel of one foot by a nail. The wound suppurated and became very sore, so that he walked on the outer side of the foot with the heel raised. Continuing this for six months, he was then unable to put his foot flat on the ground. Tenotomy was performed under chloroform and a suitable apparatus applied; the result was excellent. Dr. C. quotes a case from the *Lon. Med. Record*, Vol. VI., 1878, in which a patient was cured by simply persisting in bearing his weight in walking on the side of the foot which had been previously injured. Dr. C. also refers to two cases of acquired talipes from Scarpa ("Memoirs on the Club-Foot of Children," translated by Wishart, p. 45).

Parker and Shattock: The Cause of Congenital Club-Foot. (*Brit. Med. Jour.*, May 24.)

Messrs. R. W. Parker and S. G. Shattock advocate a mechanical mode of causation for this deformity, *i. e.*, intra-uterine pressure. This opinion rests upon a dissection of five cases (2 varus, 3 calcaneus), and study of specimens in various hospitals. They found no confirmation of the idea that it was due to a lesion of the nerve centres, or trunks, or bone deformity. A case was found where patches of skin were atropied with burræ beneath, over the exterior malleolus and head of the astragalus, comparable with what is found in those who have walked on an unreduced talipedic foot. Both were thought to be varieties of normal positions at some time of fetal life.

D'Heilly: Fatal Hemorrhage from Ulceration, Caused by Pressure of Tracheotomy Tubes. (*Brit. Med. Jour.*, May 24.)

A child who had been tracheotomized for diphtheria, and in whom the canula had been kept in position only for short periods at a time, on the twelfth day had a profuse hemorrhage from the mouth and trachea, which quickly resulted in death. The autopsy showed ulceration of the anterior tracheal wall, extending as far as the innominate artery. The ulceration corresponded to the position of the canula. Two similar cases are to be found in "Guy's Hospital Reports."

McGill: Separation of Lower Epiphysis of the Femur. (*Med. Times and Gazette*, May 24.)

A strong, well-developed boy, fifteen years of age, was sitting at his work, his feet on the ground, centre-punching a boiler-plate, when the plate slipped and struck the lower part of the left femur above the knee. He was immediately brought to the hospital, and on examination there was well-marked deformity at the site of injury. The anterior face of the patella was on a plane one and a half inches in front of the anterior surface of the femur, while posteriorly the protruding proximal end of the femur could be felt, and also the popliteal artery. The patient was etherized, and the deformity easily overcome by flexing the leg until the heel touched the buttock; a posterior splint was applied and a perfect recovery ensued. Remarks: This injury is liable to cause traumatic aneurism or gangrene of the leg, and, if the deformity is not overcome, an almost useless limb remains.

Clutton: Intestinal Obstruction Due to a Diverticulum; Operation; Recovery. (*Lancet*, May 17.)

Mr. Clutton cites the case of a boy, ten years of age, who was attacked with severe vomiting and abdominal pain, of which he had had several attacks previously, lasting two or three days, terminating by large evacuations from the bowels, produced by enemata. This last attack did not respond to either opium or enemata. When seen, he had been suffering for three days, but then was free from pain, and had ceased vomiting. The abdomen was opened, and a band found which constricted a portion of intestine; the band was tied at each end and divided in the centre. The portion of intestine strangulated was three inches long and very dark in color. Recovery was uninterrupted. Mr. C. gave the following explanation of the condition found: "The vitelline duct had been obliterated at the umbilicus, and set free from the abdominal wall; but, remaining patent towards the ilium, the lower end had become a pouch-like diverticulum from the intestine. This diverticulum, terminating in a pointed extremity or cord, had remained floating about among the intestines till it had become attached to the bowel in contact with it. The gut between the two points of attachment had slipped beneath the cord and become strangulated."

Macnamara: Syphilitic Ostitis in Infants. (*Brit. Med. Jour.*, July 5.)

In an address upon the pathology and treatment of the above condition, Mr. M. says: Syphilitic ostitis differs from that of adults in that the osseous system is not fully elaborated; otherwise the skull and extremities of the long bones are the parts principally involved. In adults, especially if affected with hereditary syphilis, the extremities of the long bones are apt to become encased in a thick periostitic formation; so in infants, the offspring of syphilitic parents, the periosteum round the ends of the long bones may become thickened. This newly-formed bone interferes with the circulation, and so degenerative changes are apt to occur between the diaphysis and epiphysis of the affected bones. There is no inflammation, but simply disintegration and softening of the tissue at this line. In the same way the boned skulls of syphilitic children are the result of ostitis of the cranial bones. The lesion is peculiarly amenable to mercurial treatment.

Macewen: Nephrectomy; Recovery. (*Glasgow Med. Jour.*, June 7.)

A boy, who had suffered for many months from symptoms of renal calculus, was admitted to the hospital in a semi-delirious condition, with feeble pulse, abnormal temperature, and lividity of face. Urine contained pus a large quantity, also crystals of phosphate of lime. There was increased area of renal dullness on the right side and marked fullness in the lumbar region. He was at once operated upon by lumbar incision. Two renal calculi were detected, one occupying the ureter and greater portion of the pelvis, the other in the substance of the organ. Both were removed, but the organ being found to be full of abscesses, and its excretory surface very much diminished, it was removed. He recovered completely at the end of ten weeks.

Bibliography.

The Diseases of Children: A Hand-book for Practitioners and Students. By ARMAND SEMPLE, B.A., M.B., Cantab., M.R.C.P., London, etc.

There is, in this department of medicine, a growing need for that material to study from which is the outcome of extensive and utilized experience rather than for hand-books and curtailed descriptions of diseases and their diagnoses. Viewed, however, as a manual solely, it invites criticism by its numerous errors and by its fidelity to traditions which are passing away. The long list of diseases and disorders which the author claims are due to dentition, would be really appalling if that were their cause; but the comparative absence of these troubles in country-reared children leads us to doubt this, and to attribute them rather to the influence of unfavorable hygienic surroundings on children of tender age.

The directions for examining sick children are, in general, very good, but could be more complete. Some errors, however, must be noted. As an example (page 37) he says: "Dullness posteriorly, on the right side, is a normal physiological state, due to abdominal pressure, by which the abdominal viscera, and upon the right side especially the liver, are pressed upwards;" whereas the dullness, higher up on the right side, is due to the presence of the liver in its normal position, not "pressed upwards," and for which presence nature has provided a lung on that side broader and shorter than its fellow of the opposite side. Again, in this chapter he says: "The rise in a day to 104° or 105° Fahrenheit, precludes typhus and typhoid." While this abrupt onset is not their normal course, it is by no means uncommon to find them behaving in that way, and his positive and unqualified statement to the contrary is calculated to mislead. Chapter I.—He says that "in children from the earliest age the mucous membrane of the mouth exhibits a disposition to disease, and may be observed in a state of congestion at birth, or of inflammation very soon after." If this be another of the dangers with which the health of the neonatus is threatened, we may indeed congratulate ourselves upon living on this side of the Atlantic, where the child whose mouth is kept clean, and for whom the mother's nipple is carefully washed, generally enjoys immunity from such unpleasant results. In the same chapter he devotes more than a page to ulcerative stomatitis, for which, by the way, he gives noma as a synonym; to aphthæ, a page and a third; but to cancrum oris, which follows, he gives less than a third of a page, and does not even allude to the latest treatment for that dreaded disease, which at least has been fairly successful on this side of the water in the hands of Dr. McGuire and others.

Chapter II.—He advocates the use of arrowroot for children suffering from cholera infantum, an article that cannot be too strongly condemned in view of the knowledge we have of the imperfect (or absent) digestion of starch by the child under seven or eight months of age.

Chapter VI., on abdominal tumors.—He devotes about ten lines to cancer of the kidney, an important and certainly not infrequent disease of childhood, which, even for a manual, it seems is entirely inadequate.

Chapter VII.—He rarely names the doses to be given in this book—certainly an omission in a work which he calls "An Introduction to the Diseases of Children." He does, however, fall into the error of recommending the exhibition of too large doses of dangerous drugs, where he does advise the quantity to be given. In this chapter, for instance, he advocates doses of from one to six grains of santonine, in the face of the record of one death of a child five years old from two one-grain doses, and of several cases where four-grain doses have nearly proved fatal in children much older.

In the article on cholera infantum, quoted from above, he advises "one or two minims of the tincture of opium," which cannot be considered safe doses to begin with, particularly in feeble babies.

In Chapter IX., page 107, he omits one of the most common causes of death in glycosuria, viz., nephritis and suppression of urine; unless he means that "convulsions and coma" are due to nephritis, which is by no means clear.

Chapter XIII., page 135.—His classification of pleurisy does not accord with the latest nomenclature; for example, he describes serous effusion as chronic pleurisy or hydrothorax, whereas hydrothorax is considered as a non-inflammatory disease, and is to be differentiated from pleurisy. He calls the percussion over the fluid, when present in large amount, "dull" instead of "flat." He does not seem to attach any importance to change of position as a means of diagnosis from pneumonia; nor to the use of the hypodermic needle to determine the character of the fluid.

Chapter XIV.—The article on emphysema is one of the best in the book.

Chapter XX.—On rectal alimentation, he recommends the liquor pancreaticus to be added to milk, and injected at once. This is certainly not good practice, as fluid which is designed for rectal alimentation should be in a condition for immediate absorption when injected.

Chapter XXIV.—Among the causes given for simple meningitis he places "the foolish proceeding of some mothers who wash their children close to a large fire with their heads almost in the grate," which is, at least, ingenious.

Pages 220–221.—The article on acute hydrocephalus is imperfect, and falls far short of what we ought to expect. Several important diagnostic points are wanting.

Chapter XXVIII.—Article on trismus nascentium does not represent the state of our knowledge upon the subject. No allusion is made to the postural treatment, which has been successful in the hands of several practitioners, and which, from its safety and simplicity, certainly deserves a trial.

Chapter XXXI.—From reading the author's treatment for spina bifida, the uninitiated might infer that tapping the tumor and injecting iodine was an innocent remedy. No caution is given, and no reference to cases which have terminated fatally—and that suddenly, too.

Of the article on cerebro-spinal meningitis, it may be said, as the author does of the treatment of this affection, that it "is in the highest degree unsatisfactory."

Chapter XXXV.—In the treatment of typhoid fever, he suggests "applying a few leeches to the abdomen." We, on this side of the water, have supposed that blood-letting in children was extinct.

In conclusion, we may say that, for the general practitioner, this book has little to recommend it, and for the young student it cannot be considered of much value.

R. M.

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REMARKS ON TRACHEOTOMY IN CROUP

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In spite of the most approved modern methods of the medical treatment of pseudo-membranous or diphtheritic croup, the disease will, with but rarely an exception, advance in severity until tracheotomy is demanded for its relief and cure. Quite recently, in a discussion before the New York Academy of Medicine, that distinguished member, Dr. J. Lewis Smith, asserted that he thought that, by the faithful use of the steam-spray, about one in eight cases could be saved; and in a number of recent articles, prominent among them one by Dr. A. Jacobi (*Med. Record*, May 24, 1884), writers have found very favorable results from the internal use of mercury. Even should these very hopeful anticipations be more than realized, a large majority of the cases of croup must come to surgical skill for relief. Success in tracheotomy, as in other operations, results from the strictest attention to details, and to emphasize some of them that seem important to my mind, I offer the following observations, based upon a study of twenty operations that I have performed during the past four years; of this number nine recovered and eleven died. The ages of the patients operated upon varied from nineteen months to ten years. The youngest child who recovered was nineteen months old, the oldest ten years. The average age of the children cured was three years and nine months. Seven died from extension of the membrane below the tracheal opening, three from asthenia, and one from exhaustion.

The Time for Operation.—To determine just the time for operation is often one of the most difficult questions connected with tracheotomy to decide. The proper time for tracheotomy is medically late, but surgically early. It is the period in the course of the disease so late that it offers the smallest hope to medical treatment, and so early that the prospects of tracheotomy are the greatest. No general rules can be formulated by which to recognize this time, but it must be determined in a given case by a careful consideration of all its features and surroundings. Very young infants and children debilitated by preceding diseases, or accompanying systemic diphtheria, resist the dyspnea of croup but feebly, and the postponement of tracheotomy is dangerous. Early operations in such cases are often imperative. When the patient is robust, the disease, chiefly in the larynx, and grave dyspnea comes on but slowly, the physician may safely delay the operation and thoroughly test the value of medical measures. Bnt the progress of the case must be assiduously watched and the delay not too long. It should be remembered that tracheotomy, if properly done, takes a little time, and very late operations are to be deprecated. The long continued dyspnea exhausts a child, and the intense venous congestion that results conduces to catarrhal and membranous inflammation of the trachea and bronchi, the most frequent causes of death after tracheotomy. Besides these remote dangers which attend very late operations, there is the immediate and unpleasant one of death on the operating table. That this is a prominent danger is shown by my experience. In four operations which I would class as late, three of the patients ceased breathing before the trachea was opened, one, in fact, after the first attempt to administer chloroform and before the operation was commenced. These patients were only saved by prompt entrance into the trachea and artificial respiration. The hour of the day or the distance a physician may live from his patient may determine the time for operation. The night is very severe on croup patients, and it is not unusual for the physician to find a patient whom he left comparatively easy the night before beyond all hope of relief at his morning visit. If frequent visits cannot be made at this critical period, or a competent watcher is not at hand, an early tracheotomy should be made. As a case of croup progresses in severity, the parents should be told the gravity of the disease, and be asked to consider the question of tracheotomy, so that there may be no delay in gaining their consent when the time comes for operating. Precious minutes and hours are often lost in arguing with them if the physician delay suggesting the operation until he is ready to make it. In tracheotomy, above all operations, delay is disastrous, and if the surgeon must err let it be on the side of an early operation. The prognosis of croup is so very grave, even in its first stages, that an unnecessary tracheotomy must indeed be rare.

Prognosis of Croup after Tracheotomy.—The chief conditions which influence the prognosis of croup after tracheotomy are, (1) the nature and extent of the obstructing membrane; (2) the severity of the diphtheritic toxemia; (3) the presence of severe bronchitis or pneumonia, and (4) the age of the patient.

Croup, in common with other diseases, differs greatly in severity. Thus the exudative process may be mild, its progress slow, the membrane limited in extent to a small part of the larynx, soft and pultaceous and but loosely attached to the mucous membrane; or it may be severe and rapidly progressive, and the exudate tough, firmly attached, and extending throughout the larynx, trachea, and larger bronchi. Between these extremes are all grades of severity. It is manifest that the more nearly a case corresponds to the mild type, the more favorable the prospects after an operation. A certain number of these cases recover under medical treatment, never reaching the stage that necessitates tracheotomy. When an operation is performed, either no membrane or a loosely attached one is found below the incision; there is but little tendency to its extension or reformation, and such a case usually gets well. Unfortunately, this extent and nature of the membrane cannot be certainly determined before operation. Then the age, so to speak, of the false membrane has prognostic significance. Diphtheria appears to be a self-limited disease, and should it have spent its force before the invasion of the larynx and an operation demanded, the prospect of recovery, other things being equal, is much greater. Case seven of my series well illustrates this point. There was severe pharyngeal disease for six days. Then it invaded the larynx, progressed slowly, and six days later, when the pharyngeal disease had disappeared, the dyspnea became so great that tracheotomy was done. The trachea was found to be lined by a tough membrane, and between the membrane and trachea was a quantity of pus. Nature's effort to throw off the offending mass had still further narrowed the calibre of the trachea and made tracheotomy necessary. The exudate was extracted, showed no tendency to reform, and, as far as the croup was concerned, a rapid cure resulted. The child was, however, a very long time in recovering from the alarming prostration the systemic disease had produced.

The activity and severity of the diphtheritic process greatly influence the prognosis. I fail to see a distinction between so-called membranous croup and diphtheritic croup, but consider the two conditions identical. The disease, however, presents three grades of severity, clinically well marked, which are of importance in this connection. Group 1 includes cases in which the local manifestation of the disease is confined to the larynx and trachea; Group 2, those in which the pharyngeal disease is mild; and Group 3, cases accompanied by severe pharyngeal or naso-pharyngeal disease, and which are dangerous without the croup. The records of all operators show that but a very small percentage of the cases of Group 3 recover after tracheotomy. In the two other groups, however, the operation is followed by a most encouraging number of cures, and the nearer the approach to the mildest type, the simple membranous croup of many writers, the better are the results obtained. Of my twenty cases, six showed no pharyngeal disease, and of them three recovered. Ten were accompanied by mild disease of the pharynx, five of them were cured. Of the four severely infected cases, but one lived.

It is manifest that the presence of such grave diseases as pneumonia and bronchitis would greatly increase the gravity of the prognosis after a tracheotomy. These diseases, however, have not been complications of croup in my experience. Other operators of larger experience do not consider them contra-indications.

The older the patient, other things being equal, the better are the chances of tracheotomy. All the more recent writers on the subject, although agreeing that a tender age, under two years, is unfavorable, urge that it is not a contra-indication: Three of my cases were under two years of age; one at nineteen months recovered.

Experience with these cases leads me to think that the general condition of the patient and the tendency of the disease have more influence over the result than the age itself.

From a study of the foregoing it will be seen that, although there are a number of conditions which influence unfavorably the prognosis after tracheotomy, there are, strictly speaking, no contra-indications to the operation.

But still I cannot see what is to be gained by operating upon a child dying from diphtheritic toxemia or other grave accompaniment of croup. Such cases bring the operation into disrepute, both with the profession and the community, and a succession of them in a neighborhood will do more harm to tracheotomy than a physician can undo in hours of argument. A strong prejudice against tracheotomy means death to many children who might be saved by it. On this account I do not think tracheotomy should be urged merely to relieve suffering, and I should not advise it unless I could offer some hopes of a cure. People are not ready to accept tracheotomy merely to relieve a child's dyspnea and prolong his life a few hours; they consent readily to palliative operations on adults, but not on children.

The Operation.—The anatomical and surgical details of the operation have frequently been well described. I will consider only a few points connected with it. Tracheotomy is a capital operation, attended by a very great mortality. The patient should, whenever possible, be prepared for it. Every effort consistent with proper medical treatment should be made to preserve his strength for the great struggle. The administration of full doses of quinine from the beginning appears to influence favorably the course of the disease, and is an excellent medicinal foundation for an operation. Stimulants for a time before the operation are of the greatest value. Emetics should be administered with judgment. Large and repeated doses are unnecessary, and if retained in the alimentary canal—as is quite probable when given late in the disease—may cause serious trouble. For the same reason I should hesitate to give large and frequent doses of calomel.

For an anesthetic, my preference is for chloroform. The period of excitement with it is short, and a few whiffs are generally enough. Increase of dyspnea is frequently the result of the emotion the anesthetic excites, and sometimes, especially in very late operations, it is dangerously intensified. Three times with me, as above stated, respiration has ceased, probably from this cause, before the trachea was opened. When this happens, the operation must be quickly terminated, and efforts at resuscitation made. A soft catheter with an open end is most useful for this purpose, and the operator should always have one at hand. He may insert it deeply into the trachea, and inflate the lungs by blowing air from his own. A few such inflations, with artificial expiration, will almost always be successful.

The dissection to the trachea should be rapid but deliberate. A large cutaneous incision and much tearing of the tissues should be avoided, so that as small a surface as possible is offered to diphtheritic deposit. Healing by first intention, to as great an extent as possible, should be aimed at.

In order, if possible, to get below the obstructing membrane, it is thought to be better to operate below the thyroid isthmus. In four of my cases I made the low operation. The results were excellent—three of the four recovering. It is ordinarily more difficult, and takes a little more time, than tracheotomy superior, and I have been more frequently influenced to make the latter. I have often made the cutaneous incision directly over the isthmus, and have gone into the trachea above or below, as afterward seemed better. After the incision into the trachea, all occasion for haste is usually past. The edges of the tracheal wound should be held apart by retractors, and the trachea explored for pieces of membrane, blood-clots, etc. These should be removed by forceps or a feather, and then, as a secondary consideration, the tube may be introduced. This "toilet of the trachea," as it has been aptly termed by Dr. L. S. Pilcher, of Brooklyn (*Annals of Anat. and Surg.*, September, 1882), is a matter of considerable importance. Many cases, after the trachea has been thus cleansed, show no tendency to the further formation of membrane.

I have always used a canula, and prefer the ordinary double silver canula, with movable shoulder. I have, however, never found any use for the fenestrum that is in the outer tube of most of them. I have found very useful, as a protection to the skin and wound, a little apron of oiled silk, perforated for the passage of the tube; beneath this may be placed a thin pad of absorbent cotton, perforated like the silk, and anointed with carbolized or iodoform vaseline. This pad serves as a dressing for the wound and a soft cushion for the tube to rest on, and gives additional freedom to the movements of the canula within the trachea.

The After-Treatment.—After the operation, the child should be placed in a warm bed, in a room with the air moist and of a temperature of 80° F., or over, and during the first week this degree should be maintained. The attendants should now be most carefully instructed in the future management of the case, and above all the necessity of keeping the canula clean must be impressed upon them. It will not do to tell them once or twice, but at every visit this must be emphatically reiterated. It is a point in the after-treatment that cannot be too strongly spoken of. I think that a very large majority of the preventable deaths, after tracheotomy, result from occlusion of the canula, or trachea below it, by masses of mucus or membrane. In the way of medical treatment, full doses of quinine have seemed to me useful at first to control traumatic fever; later, the remedy may be given in smaller doses, and in combination with iron or strychnia, as a tonic. When much pharyngeal diphtheria is present, tincture of iron chloride is useful. Quite liberal stimulation with brandy or wine is necessary in many cases. Nourishing liquid food will usually be eagerly taken. Although I have not as yet seen marked results from the use of mercurials in croup, in view of the recent very favorable reports of the method by various observers, and particularly by Dr. Jacobi, in the article before referred to, it demands consideration and trial. Of the use of mercury after tracheotomy, Dr. Jacobi says: "If it [the general treatment before the operation] consisted in the administration of hydrargyrum, either internally or externally, it must be continued. If its effect was not sufficient to clear the larynx and render the operation unnecessary, it will or may be sufficient to complete its effect in the next day or two, to prevent the process from descending, or the membranes becoming too many or too thick." He uses corrosive sublimate in doses varying from one-sixtieth to one-twenty-fourth of a grain, largely diluted, every hour. This treatment has been continued for from one to six days.

In the first few hours after the operation, if the trachea has been well cleansed, the canula will not require much attention; the occasional removing and cleansing of the inner tube will generally be all that is necessary. In from twelve to twenty-four hours, however, there is developed either a catarrhal or pseudo-membranous tracheitis, attended by a copious exudation of thick, tenacious mucus or pseudo-membrane. Three or four days later, this thick secretion becomes gradually thinner, and, reinforced by the pus from the granulating surface of the wound, though still copious, is more easily expectorated. This period of abundant thick secretion is the time of greatest danger, and the appreciation of the indications present, and the efficiency with which they are carried out, will frequently determine the result. The inspired air quickly dries the mucus and membrane, and they form hard, sticky masses, which, although exciting continual cough, are thrown out with the greatest difficulty, and tend to lodge in the trachea, below the canula, or in the canula itself. To meet this danger, it is obvious that the secretions must be kept fluid, and the way clear for their expectoration. Several methods are more or less efficient. A comforter composed of several layers of gauze, kept over the mouth of the canula, warms and moistens the inspired air. Answering the same purpose, but often more efficient, is a thin slice of sponge, secured by tapes passed around the neck, and frequently moistened with hot water. I have found a feather, moderately stiff, an invaluable instrument; moistened and passed into the trachea, it loosens the mucus and membrane, and by exciting cough, favors their expulsion. When the catarrhal inflammation is mild, and there is no tendency for the membrane to extend below the tube, these procedures may be requisite. When the opposite conditions obtain, however, more powerful measures will be necessary. Frequent instillations of a few drops of a warm, weak, saline solution are here of the greatest value. But I have obtained the best results from the persistent use of the steam-spray. It liquefies the mucus, macerates the membrane, and facilitates its separation and expulsion. It acts also as a warm, moist application, and allays in the happiest manner tracheal irritation and inflammation, and hastens the natural process by which the membrane is exfoliated. However opposed a child may have been to its use before the operation, it will not be after. From a distance of ten or twelve inches, the spray may be projected almost continuously into the mouth of the canula, and under its influence a little patient will sleep for hours at a time, coughing only occasionally to expel the accumulated liquid. A solution of bicarbonate of sodium, one teaspoonful to a quart of water, has proved with me as useful as any of the reputed solvents of membrane. If, in spite of these measures, dangerous dyspnea should develop from extension of membrane or accumulation of dried mucus below the tube, and all efforts fail to dislodge the obstructing mass with the canula *in situ*, it must be removed, the trachea explored, and the needed manipulations made through the open wound. During the first twenty-four hours this is not an easy matter, as the walls of the wound readily collapse. Retractors must be used, and the physician must be in readiness to insert the canula at any moment. A feather, a pair of curved forceps, and a small catheter with a piece of sponge firmly sewed to it, are instruments of value in this manipulation. After this time no difficulty will be experienced. On the third day, if it has not been done before, the whole canula should be removed, cleansed, and reinserted, and this should be repeated daily until it is dispensed with.

The canula should be permanently removed at the earliest possible time, as there is a great element of uncertainty about the ultimate result as long as it is worn.

As soon as air commences to pass through the larynx, which will generally be in from four to six days, the canula may be removed and respiration allowed to go on conjointly through the larynx and wound; should the wound remain well open, it may remain out for several hours, or perhaps permanently. I have found that, with the tube removed in this manner, the stenosis disappears much more rapidly. The patient must be carefully watched, however, and the attendant directed to introduce the canula if necessary. After the removal of the tube, the wound heals quickly.

In two of my cases it was necessary to retain the tube beyond the ordinary time. In Case 1 it was removed on the fifty-third day, and in Case 4 on the twenty-second day. In both of these cases, the difficulty seemed to be collapse of the anterior wall of the trachea below the wound. Case 1 was quite interesting, and was detailed elsewhere (*Med. Record*, October 1, 1881).

With the rarer accidents and complications which sometimes attend tracheotomy, I have not had any experience. Diphtheritic inflammation of the wound has been frequent, in two cases quite severe. It destroyed a large amount of tissue in one case, and in another it involved all the tissues of the front of the neck and extended on to the chest. It was the most important factor in the production of the fatal termination of the case. In the way of treatment, frequent cleansing and dressing with iodoform seemed to give the best results.

SUMMER DISEASES OF CHILDREN, AND INFANT DIET.*

BY CHAS. WARRINGTON EARLE, M.D.,

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During the past few weeks, our Health Department has been placing the city in the very best sanitary condition to prevent cholera, and the profession has very wisely been posting itself in regard to the causes and treatment of the same disease. Asiatic cholera is still thousands of miles away, and perhaps there is no more danger of its attacking any person in this city than there was six weeks ago, and yet during last month, July, more than five hundred children perished from the diseases peculiar to their age during the summer months. According to the report of the Health Department of this city, three hundred and ninety-eight children died of cholera infantum during the month, sixty-four from entero-colitis, a few from diarrhea, and a few from dysentery. It is not the first time that I have, in this society, raised the question in regard to the differential diagnosis between entero-colitis and cholera infantum, for in all probability, if the figures were reversed, we would be nearer the truth; that is, that sixty-four died from cholera infantum, and three hundred and ninety-eight from entero-colitis.

The number of deaths from cholera infantum in European cities is reported as small, and it appears to me that, if we observe facts closely, we shall find that it is not as frequent a disease in our city as we have to this time supposed.

There are four diseases that we find children affected with during the summer months, which I will enumerate in the order that they occur: First, simple or non-inflammatory diarrhea; second, entero-colitis, or inflammatory diarrhea; third, cholera infantum; fourth, dysentery. The last named disease takes place with such infrequency, and is in the great number of cases so nearly like a severe entero-colitis, that I shall not refer to it again. The other three diseases I desire to define very briefly; and then, in a general way, designate the best methods, as it appears to me, of treating or rather of preventing them.

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* Read before the Chicago Medical Society, August 16, 1884.

Simple diarrhea is a very frequent disease, and is characterized by frequent passages from the bowels, of normal color, without straining, without much fever, and with but little vomiting or other constitutional symptoms. It is usually a trivial disease if taken in time, and if the child is placed upon a proper diet. It is always well to remember, however, that a neglected disease of this kind, although mild at the start, frequently runs into an entero-colitis or cholera infantum.

Entero-colitis is an inflammatory disease of the bowels, sometimes involving the stomach, where it would more properly be called a gastro-enteritis. It is characterized by frequent passages from the bowels of different color, green, slimy, bloody, or muco-purulent, attended by considerable tenesmus, with more or less vomiting, inability to digest food, fever, and soreness on pressure over the abdomen. This is the disease, above all others, in my estimation, that we have to attend during the summer in this city. It may be ushered in as a simple diarrhea, and it may terminate as a cholera infantum. Undoubtedly the great majority of cases of cholera infantum commence either as a simple diarrhea or as an entero-colitis; very rarely, I believe, do we have a cholera infantum commencing as such.

Cholera infantum is a disease characterized by profuse watery discharges from the bowels, watery vomiting, a high temperature, and a rapid tendency towards collapse. Now, in my experience, it is very rare to find a case with all these symptoms at its commencement; and while we very frequently, in an entero-colitis, find the child dying from exhaustion and apparent collapse, the other prominent symptoms are not and have not been present. A child with cholera infantum can live but a short time unless the disease is checked. The great majority of those dying last month, however, were sick undoubtedly from seven to ten days.

I base my diagnosis, then, upon the slimy, bloody, greenish stools in entero-colitis, and the profuse watery discharges and vomitings and the rapid collapse in cholera infantum.

While I am inclined to find fault pleasantly with the diagnosis of these diseases, it really makes but very little difference as to the result. As far as medication is concerned, I have no doubt but that the larger number are treated *secundem artem*, but really it is not medicine these little people need.

This brings me to speak of the causes or etiology of these diseases. Teething, bad surroundings, and heat, of course, produce much of this trouble, but at the foundation of a large number we find improper and insufficient feeding. We hear a great deal said in regard to the mortality in such wards as the Sixth and the Fourteenth. While the hygienic surroundings in those two wards are undoubtedly not what they should be, we should remember that there are more people, and particularly more children, living in those two wards to be sick and to become victims of infantile diseases than in several of the other wards. There are but few children in the First, Second, Third, Fourth, Ninth, Tenth, Eleventh, and Twelfth wards compared with the great number of little people that one sees in the Sixth and in the Fourteenth. Indeed, the deaths from summer diseases in children are not at all confined to the city. If one will take the trouble to investigate he will find that the mortality from these diseases is, it appears to me, quite as large in some of our suburban towns. The facts are, these diseases are found wherever we find children whose nutrition is not in good condition, and are in many cases preventable if the people could be made to understand how and what to feed these little people; and I do not desire to blame the people entirely. I think there is altogether too little attention paid to infant diet by the profession, and knowledge has recently come to me of children who were sick under the care of physicians who were heroically medicating them, and not paying one particle of attention to what they were eating. Children were vomiting great masses of casein and passing the same undigested stuff from their bowels, and no attention whatever paid to the rectification of this, and yet the medication had been, to say the least, heroic.

The point which I now desire to make is, that it is not so much bad sewerage or bad hygienic surroundings in any one particular ward or location in the city, but it is in feeding these little children that we have one of the first elements in the production of such a terrific mortality, and it appears to me that it is quite as important for us, as physicians, to commence the study of this defect in our practice as it is to devote all of our attention to some one of the major surgical operations which we seldom meet, or to the consideration of diseases which are yet thousands of miles away.

We need to study the particular kind of food, the quantity of food, and the quality of the food, which children should have each day. If a child has what nature meant it to have, it should nurse its mother. "Nature does not afford nor can art supply a substitute." And yet very frequently we know that it is impossible for a mother to nurse a child, and then the question comes as to what its nutrition shall be. I am coming to believe more and more every year that a wet-nurse should be provided, but in the great majority of cases, either from the expense or from our inability to procure them, this cannot be accomplished, and consequently we are brought directly to the subject of artificial feeding of children. In the first place, I believe that a child artificially fed does not, in many instances, get enough food. The pernicious idea is prevalent among the people that because a baby is small, that it should have but a small amount of nutrition. This, in some respects, is undoubtedly true, but the physiological changes in children are so rapid that they need, in proportion to their weight, a larger amount of food than adults. A large number of children, concerning whom I have been consulted, are taking from sixteen to twenty ounces a day, whereas a child at six months of age should have nearly twice that amount, in order to come up as a healthy and well-nourished child. There is a vast amount of ignorance among the people in regard to the questions we are now considering, and along with the rules for the prevention of cholera of the Asiatic variety it would have been well, it seems to me, if our Commissioners of Health had issued a set of rules in regard to the quality and the quantity of artificial food that a child should have each day. Supposing that it is impossible for the mother to nurse her child, and that it is not practicable for a wet nurse to be procured, what then shall the food for a child be? It is not my intention at this time to discuss the different articles of infant diet that agree with it best when it is in health, but I desire to speak of some of the articles of food which should be withdrawn, and others which should be substituted when a child is troubled with these summer complaints.

At the outset we conclude that if a child is having milk artificially, and it is commencing to vomit curdy portions, or having a diarrhea largely made up of curds, that the only safety for the child is to have that food withdrawn. There is no use of trying to treat a child at the commencement of a summer difficulty while its digestive apparatus is in this condition, and while its stomach is full of this kind of food. Called to see a child suffering from very simple diarrhea or entero-colitis, we should substitute for the milk an article of food which furnishes a sufficient quantity and good quality of something which does not produce curds. It is well known to us all that it is the casein in milk which digests with the greatest difficulty.

Physicians will bear me out in the statement that the great majority of children, when born, are fat and well-nourished. No matter how poor the surroundings of the mother may have been, and no matter how hard she has worked, in the great majority of cases new-born babes are fat, chubby fellows, and every physician present has some time been surprised to see a sickly, weak, anemic woman bring forth a strong, active, and perfectly healthy child.

But to what a condition of starvation are many of these same fat children reduced within the first three or four months! Granting that the majority are born plump and well-nourished, the startling fact stares us in the face that 1,111 children under five years of age died last month in this city. What can be done to diminish this terrible mortality?

We must acknowledge that there are certain causes which contribute in a considerable degree to infant mortality, over which we can have no control. In the first place, we have congenital vices; second, the natural feebleness with which we find a few children the victims; third, hereditary diseases; and fourth, the liability of diseases peculiar to children.

Over these causes of infant death we can have but little influence; but the bad nutrition that is the cause of marasmus in so many babies, and the commencing cause of so many summer diseases, we can diminish. In the first place, let us belong to that class of physicians who believe in commencing to feed a baby within a few hours after its birth. I believe that not only is the child injured, but sometimes the mother, by keeping the baby from its natural food for two or three days, as is the custom of some. Let us also discourage, as far as possible, the administration of those decoctions and outrageous mixtures so common in the lying-in chamber.

Some nurses, who belong to a former generation, are not content until there is thrust down the throat of the baby some mixture made up of such ingredients as molasses, vinegar, butter, alone or in combination, followed with saffron, and then the orthodox dose of castor-oil. Many an indigestion has commenced at the very outset of a child's career. Let us also advise a mother to nurse her own child. In lieu of this, let a wet-nurse be procured. If this is impossible, advise a mixed diet—part mother's or nurse's milk, and part artificial food. If these are impossible, of course, we must do as well as we can on a pure artificial food. What can we say in regard to some of these artificial foods to which our attention is constantly directed? Some good things may probably be said of them all, and yet, what will agree with one baby will not agree with the next, and because the first child in a family has been brought up and well nourished upon Ridge's Food, it does not follow that the second baby will thrive upon it. Whatever the food may be, the physician should weigh the child frequently in order to find that it is gaining—absolutely gaining—a little every week. There is much to be gained also by examining the fontanelles of children.

The different kinds of animal milk would probably engage our attention at first, such as goat's milk, mare's milk or cow's milk. Whichever is selected, do not dilute too much, and see to it that it agrees with the child. If the child is somewhat constipated, the oatmeal diet is an excellent one. If it has a tendency to diarrhea, barley-meal, to which may be added a small amount of cream to better its quality, may be used. If a child is prematurely born, and it is necessary to wait a few weeks for the establishment of the milk-secretion, there is nothing better than rice- or barley-water as the foundation of the food. To this add from half a dram to one dram of cream, a little sugar, and a little salt. I have seen three or four babes, born at the seventh month, nourished well upon this food. To an older child, if there is a tendency to diarrhea, the boiled flour-ball is an excellent adjutant to its food. A pound or two of flour is enclosed in a bag, and tightly tied, so that a firm mass is made. This is boiled several hours. Taking off the covering, there will be found to be a thin layer of a doughy character, but the inside is thoroughly cooked and very hard. This is scraped, or grated, and used to thicken either rice-water or barley-water, and agrees well with some children. It is particularly good if there is a tendency toward diarrhea. Gerber's Food is condensed milk and cooked flour or bread, and answers well for very young children; as also does Nestle's Food, which is made of coarse wheat-meal and condensed milk, reduced to a powder. Mellin's Food, Ridge's Food and Imperial Granum, Maynard's Nutrimentum, and the Gelatine Food, suggested by Meigs and Pepper, are all familiar to the profession. Condensed milk is a food which may be made most valuable, but which frequently supplies insufficient nutrition, and consequently predisposes to summer diseases.

While this agrees with some children in an excellent manner, in the great majority of cases it is given *too diluted*—that is, not enough of the condensed milk is given each day. It should be remembered that condensed milk is only condensed about four times, and that a healthy baby, in order to get a sufficiency of food, should have from one-half to one can of condensed milk, properly diluted, each day. There are hundreds of babies who do not get one-tenth of this amount. I have myself seen babies fed with a mixture made up like this: One tea-spoonful of condensed milk to a nursing-bottle of water. The capacity of á small nursing-bottle is from six and a half to seven ounces, the larger ones ten to eleven ounces. These children sometimes have a puffy look, and deceive the people who feed them into supposing that they are really getting fat and strong. Frequently, however, they are not satisfied, and nurses and mothers have said to me, that while the child eats as if it had an excellent appetite, it does not seem to thrive well, and always seems hungry. The fact of the matter is, they are giving too much water and not enough nutrition. They are causing the children to become appparently fat, but are not building upon a proper foundation. For the youngest baby, one tea-spoonful of condensed milk to eight of water is not too much, and for children of six or eight months of age, one tea-spoonful to three or four will usually not be found too rich for their digestion.

The important difference between cow's milk and woman's milk is in the coagulability of its casein. The first contains sixty-eight parts, and coagulates into hard, dense masses; the second contains thirty-eight parts, and coagulates into small, flaky particles. The white of egg, diluted with water, to which a little sugar, and sometimes a drop or two of mineral acid, is added, or a little stimulant, is well digested by many weak children. Mutton-broth, properly cooked, and made somewhat more nutritious by adding cream or barley-meal, is an excellent food in many cases. Murdoch's Liquid Food, while disagreeable to a few, is taken in small doses by the larger number of children. In addition to changing food, it has been my habit to advise a few drops of this preparation to children six months of age, which may be given in a little warm water, or in the first tea-spoonful of food given the child.

Conclusions.

1. The most frequent infantile disease in the city during the summer months is entero-colitis.

2. Excluding causes of infant mortality, largely beyond our control, improper feeding is one of the chief causes of the great number of deaths among this class.

3. Mothers should nurse their children. In lieu of this, a wet-nurse should be procured. If this is impossible, a mixed diet is preferable; and, lastly, an artificial diet must be resorted to.

4. Artificial foods containing considerable casein are found to be a cause of indigestion and summer diseases.

5. In many cases cow's milk, diluted with water, does not seem to agree with the children. Barley-water, or rice-water, as the diluent, seems to make a more physiological food.

6. Condensed milk seems to agree with a considerable number of children, but, in many cases, a sufficient quantity is not used to nourish a child. Used in proper quantities, and diluted with rice- or barley-water, it is without doubt one of the best artificial foods.

7. Cream, mutton-broth, and white of egg are valuabl adjuncts to the dietary of infants.

8. Whatever the artificial food a child is having, the physician should examine frequently for evidences that it is a proper food as regards quality and quantity. The normal elevation of the fontanelles and increasing weight are among the conditions denoting a satisfactory and favorable nutrition.

Clinical Lectures.

BRONCHITIS IN CHILDREN.

A CLINICAL LECTURE DELIVERED AT THE CHILDREN'S HOSPITAL, PHILADELPHIA.

BY LOUIS STARR, M.D.,

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REPORTED BY WILLIAM H. MORRISON, M.D.

GENTLEMEN:—I shall to-day bring before you a case of bronchitis. This little girl, aged five years, has been sick about one week. It is stated that her illness came on with a cold in the head, running at the nose, some fever which lasted for a day or two, and that since then she has had hoarseness of the voice and a dry cough. The acute form of bronchitis usually comes on in this way. A child after exposure to cold, or sudden change of temperature, or after getting the feet wet, contracts a nasal catarrh. The nose at first is dry and stopped up; then follows a discharge, at the beginning thin and watery, but after the lapse of twenty-four hours becoming yellowish and mucopurulent. The next step is usually the passage downward of the inflammation from the nasal to the laryngeal mucous membrane, and then the voice becomes hoarse, and there is developed a hoarse, dry cough. In the course of twenty-four or forty-eight hours more, if the disease continues, the bronchial mucous membrane becomes involved, and at this time we begin to note symptoms and physical signs of acute bronchitis. The child will have some flushing of the face, and a fever ranging from 100° to 102°, but as a rule not higher than that, and an annoying, somewhat paroxysmal, dry cough. On percussion, the resonance is found to be normal on both sides of the chest, as I show you is the case in this child. On auscultation, the first thing that you will hear is harsh respiration, not at all like the tubular respiration of pneumonia, being simply an exaggerated puerile breathing. After the inflammation of the bronchial mucous membrane has lasted about twenty-four hours, râles, or more correctly rhonchi, begin to be heard. The rhonchi and râles are always produced by catarrh of the bronchial mucous membrane, and their differential characters depend upon the varying amount of mucus secreted, the varying degree of swelling of the membrane, and the seat of the catarrh, whether involving the larger or smaller tubes. At first two sorts of rhonchi may be heard, the sonorous and the sibilant rhonchus, the former being produced in the larger, the latter in the smaller tubes, and if you could look into the lung at this time, the bronchial mucous membrane would be seen to be swollen, congested, and covered with a thin layer of tenacious mucus.

While the rhonchi are heard, the cough is dry and unattended with expectoration. There is also the fever which I have mentioned, the morning temperature being about 100°, while the evening temperature is 102°. The face is flushed, the appetite is impaired, thirst is increased, and the bowels are constipated. With the elevation in temperature there is a peculiar symptom which is not observed in other inflammatory conditions of the lungs, namely, when the child changes its position in bed so as to come in contact with a cold portion of the sheets, or is moved from a warm room to a cold one, it is seized with slight rigors.

When the disease begins to mend, the mucous membrane of the lung passes from its dry condition to one in which there is a greater secretion of mucus and in which the mucus is more liquid. An examination of the bronchial mucous membrane at this time would show that it is still congested, but not so much so as in the first stage, and that it is still considerably swollen; but instead of a small amount of tenacious mucus, there would be a larger quantity of much less viscid mucus, or muco-pus. This change is well described by the popular term "breaking up."

On percussion, resonance would still be found on both sides. On auscultation, the rhonchi would be to a great extent substituted by râles. These râles may present different characters, the differences depending entirely upon their location. When the catarrh is confined to the large tubes, as those of the first division, there will be heard *coarse, bubbling* mucous râles; when lower down in the bronchial tubes of the third or fourth order, *fine* mucous râles will be present; and if the disease is still lower, involving the finest tubes, *subcrepitant* râles will be heard. The latter râles attend both acts of respiration, thus differing from the crepitant râles of croupous pneumonia. These distinct varieties of mucous râles may be compared to the sound made by bubbles of air passing through a viscid liquid.

You see, then, that the course of acute bronchitis may be divided into a primary and a secondary stage,—the first characterized by fever and other general symptoms, a dry cough, and the presence of rhonchi; the second by a subsidence of the fever and general symptoms, a loosening of the cough, and the development of râles in place of or in conjunction with the rhonchi. The latter stage passes gradually into complete convalescence, the date of its beginning, as well as the whole duration of the attack, depending upon the previous health of the patient and the treatment adopted.

The case before you illustrates the second stage of bronchitis. She has a little fever in the evening; the bowels are constipated, and she has a loose cough. The percussion, as I have shown you, is normally resonant, and on auscultation the whole chest is filled with coarse, bubbling râles.

There is one point about these cases which has some diagnostic value. You will often notice that they cry during the examination. In pleurisy or pneumonia the child is, on the contrary, usually very quite. In pleurisy this may be accounted for by the fact that crying increases the pain, while in pneumonia there are two reasons for the passiveness: one is that the pain is increased, and the other is that, owing to the crippling of the lung, the child has no breath to spare for crying. You may accept it as a rule that, when the lungs are seriously involved, children are usually languid and quiet during examination.

Under proper treatment, the catarrh may be aborted before it has passed beyond the nasal mucous membrane. To do this I should give a child of the age of our patient, five years, the following prescription:

℞—Tinct. opii camphorate, fʒij;
Liq. ammon. acetatis, q.s. ad f℥iij.—M.
Sig. A tea-spoonful every two hours.

This, with the addition of a hot mustard foot-bath, often serves to break up the cold.

Even when the inflammation has descended to the larynx, and there is hoarse cough, you may succeed in preventing the bronchial mucous membrane from being attacked. The child should be put to bed and a mustard foot-bath given. Internally, you should use syrup of ipecacuanha to produce relaxation, and assist the action of this remedy by the addition of the solution of potassium citrate.

℞—Syrupi ipecac., fʒij;
Liq. potassii citratis, q.s. ad f℥iij.—M.
Sig. A tea-spoonful every two hours.

When the catarrh has passed into the bronchial tubes you continue the treatment in much the same way as when it is confined to the larynx. The child should be kept in one room and at a uniform temperature of about

72°, or better still, in bed. Mustard foot-baths are to be employed every evening to reduce the fever and to relieve the congestion of the bronchial mucous membrane. Mustard-plasters must be applied to the front and back of the chest twice a day. The therapeutic indication is to encourage secretion, and in order to do this it is necessary to produce relaxation. This is accomplished by the use of a nauseating and relaxing expectorant, as in the prescription just given.

You will always notice that, as soon as the catarrh reaches the bronchial tubes, the appetite fails and the bowels become constipated. This is because there is a simultaneous catarrh of the gastro-intestinal mucous membrane. The food must, therefore, consist of such articles as are readily digested, as milk, meat-broths, bread, and the farinas. Salines should be used to keep the bowels open.

As soon as there is relaxation and secretion, you must change the treatment, for you now desire to get the mucus out of the bronchial tubes. It is necessary to use an expectorant which is stimulating and at the same time tends to liquefy the mucus. Syrup of senega might be used. This is a stimulating expectorant, but it has no effect on the mucus. The best expectorant under these circumstances is chloride of ammonium, which may be combined with the syrup of senega, as follows:

℞—Ammonii chloridi, ʒj;
Syrupi senegæ, f℥ij;
Ex. glycyrrhizæ, pulv., ʒss;
Aquæ, q. s. ad f℥iij.—M.

Sig. A tea-spoonful every two or three hours.

The counter-irritation of the chest should be continued. During the time that the cold is breaking, the child should be kept at a uniform temperature. As the gastro-intestinal catarrh improves, more food may be allowed.

When the expectoration diminishes and the râles begin to disappear, a tonic should be employed. The syrup of the iodide of iron, in doses of five drops three times a day, may be given with advantage. The diet should be increased and the child allowed to go out in bright weather, in order to get the tonic effect of fresh air and sunshine.

Acute bronchitis occurring in a healthy child, and carefully treated as I have suggested, ought to get well inside of ten days. It must be remembered, though, that the gravity and duration of the disease depend much upon the extent of involvement of the bronchial tubes, the gravity increasing in direct proportion to the smallness of the tubes affected. In the cases which are brought backward and forward to the hospital, and which, when at home, are either in the kitchen, which is too hot, or in the yard, which is too cold, the results are far less satisfactory.

In children who are much exposed. or who are the subjects of the strumous or tuberculous diathesis, acute bronchitis is very apt to run into the chronic form. A child with chronic bronchitis, usually gets well during the summer, but on the first exposure in the fall the catarrh is renewed and continues during the winter. In these cases there is some impairment of nutrition, but not so much as in chronic bronchitis in adults. The subject is generally pale, moderately emaciated, shows the signs of anemia in the pale lips and tongue, and has, as a rule, gastro-intestinal catarrh, indicated by the characters of the tongue, the loss of appetite, the constipated bowels, and the distended abdomen. Hectic fever and night-sweats are rarely present.

A physical examination of the lungs will show that the percussion resonance is normal, but on auscultation mucous râles will be heard, varying in grade according to the size of the tubes which are involved. The râles are usually most numerous over the base of the chest posteriorly, but may often be heard over other portions of the lungs.

As I have already said, chronic bronchitis in children is not accompanied with so much emaciation, and is not of itself so serious, as is the same affection in adults. The danger to be dreaded is its passage into a condition of chronic catarrhal pneumonia. This takes place in the following manner: The catarrh gradually extends downward from the larger bronchi, until at last it affects the very small tubes and air-vesicles. The calibre of these bronchi, just before they join the air-vesicles, is very small, and a slight swelling, or a small collection of secretion, will serve to block them entirely. When this occurs, the products of inflammation and exfoliated and rapidly proliferating epithelium quickly fill the air-vesicles behind the obstructed tube. Some of the vesicles, too, behind the plugged bronchiolus collapse. This collapse tends to congestion, this in time to edema, and the portion of the lung affected becomes dark brownish-red in color, moist, smooth, and doughy. The pulmonary tissue thus consolidated is capable of restoration to the normal condition by a process of absorption; but if this does not take place the newly-formed cells still accumulating in the alveoli, become closely packed together, and from mutual pressure atrophy, and undergo partial fatty degeneration or *caseatine.* The portion of the lung usually involved in this process in children is one or other base. On making a physical examination, you will find the percussion on the unaffected side normal. On the affected side the percussion resonance will be normal down to the upper border of the lower lobe, where you will get dullness and diminished elasticity. Auscultation of the uninvolved side reveals the existence of chronic bronchitis by the presence of coarse mucous râles. Over the other lung, mucous râles will also be heard above the line of dullness, but over the area of consolidation the râles will be much finer, being always subcrepitant in character. In addition, it will be observed that the breathing tends to be bronchial, but the tendency is not so marked and the sound is not so close to the ear as in croupous pneumonia. There is, however, a distinct bronchial character to the breathing over the area of consolidation. If the patient coughs or cries, you will notice that there is bronchophony—that is, the sound is carried to the ear more distinctly than in health. The diagnostic signs are, then, dullness on percussion, subcrepitant râles, bronchial respiration, and bronchophony.

The prognosis of chronic catarrhal pneumonia is moderately favorable as long as there is no diathesis. If there is a marked diathesis, either strumous or tuberculous, the case often goes from bad to worse, the lung softens, cavities form, and tubercles are deposited. Then other portions of the lung become involved, and finally the child dies of tuberculosis. In children who have previously been in moderately good health, the disease, under appropriate treatment, usually gets well.

The differences between the chronic catarrhal and the croupous forms of pneumonia are marked. In the first form you never hear crepitant râles, the râles always being of the subcrepitant variety. This is an important distinguishing point, although it is not so valuable in children as in adults, because with them the crepitant râle is often absent in croupous pneumonia. In catarrhal pneumonia, you rarely have the same amount of movement in the wings of the nose as is seen in the croupous variety. In the former, too, the respirations are not so frequent, the pulse is not so rapid, and the temperature does not run so high as in the latter. Further, then, there is no tendency for the course of catarrhal pneumonia to be limited to a certain number of days, seven or nine, and there is no termination by crisis, as in croupous pneumonia.

What is to be done in a case of chronic bronchitis running into catarrhal pneumonia? A tonic and supporting treatment is indicated. A tea-spoonful of whiskey every four hours during the day should be given. The food should be nourishing, consisting of milk, eggs, meat, and soups. Cod-liver oil with lacto-phosphate of lime is valuable, and counter-irritation of the chest with a capcine or a simple porous plaster must not be neglected.

Clinical Memoranda.

A CASE OF CONGENITAL JAUNDICE DUE TO OBLITERATION OF THE HEPATIC DUCT.

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CASES of congenital jaundice, the result of atresia or obliteration of the larger biliary ducts, are rare enough to render a record of such cases of interest and importance, especially as their etiology and pathology are by no means as clear as could be wished. The following case illustrates this condition:

John H., aged six weeks, was brought to the Dispensary of the General Hospital for Sick Children, Manchester, on October 4, 1883. His mother stated that she had five children living, aged respectively eleven, nine, five, and two years, and six weeks, and had lost four when a few months old; she had never miscarried. She had herself suffered repeatedly from ulcerated sore throat and hoarseness, and her hair from time to time had come out, leaving bald places; she did not remember ever having had a rash. All her children soon after birth had "snuffled," and also had "frog" (catarrhal stomatitis), and more or less rash about the buttocks. The patient, who now was six weeks old, was an eight-months child, and born after a tedious labor. Within a week of his birth the mother noticed that he was yellow (the midwife stated that he was yellow at birth); his urine stained the linen, and his stools were pale like milk; he did not snuffle, nor had he ever had a rash. On examination it was noted that he was fairly well nourished, intensely jaundiced; the edge of the liver could be felt immediately beneath the ribs. He was ordered small doses of hydrarg. c. cret.

October 8. He is much the same, being deeply jaundiced; there is some diarrhea, with pale, milky stools.

October 25. The liver is much larger, having been increasing in size for the last week or two; the edge is now nearly on a level with the umbilicus.

November 1. Liver is still enlarged; the stools are loose, resembling milk; jaundice is intense; there is now much emaciation.

December 6. Is still wasting; liver is smaller.

December 30. Much diarrhea, vomiting, emaciation, convulsions, and death (aged four and a half months).

He had never suffered from purpura or had any hemorrhages; no ascites had been noted. The treatment consisted of small doses of mercury and iodide of potassium, as the history pointed to syphilis in the mother and the other children, though no signs of hereditary syphilis were noted in the patient.

Post-Mortem.—Body extremely emaciated and deeply jaundiced; all internal organs bile-stained; no excess of fluid in the various cavities, or important changes in any organ except the liver. The liver weighs seven ounces; it does not appear enlarged; it is of a dirty-green color, surface finely granular, no peri-hepatitis or matting of parts in the transverse fissure; it has a tough feel, and creaks when cut; the section is dark-green, with islets of fibrous tissue, which accompany the portal vessels, and which is evidently largely in excess; these strands of fibrous tissue are best marked near the transverse fissure where the vessels enter; the larger biliary channels contain inspissated green-colored bile; the portal vessels appear normal. On dissecting out the vessels in the transverse fissure, the gall-bladder was found to be undersized, with a small cystic duct, which entered the common duct, and passed on, being of a very diminutive size, but pervious to the duodenum; no hepatic duct could be found, the biliary duct apparently ending in the fibrous tissue present in the fissure.

On microscopical examination, the portal vessels were seen to be accompanied by strands of wavy, fibrous tissue, much in excess of normal, the fibres containing many spindle-shaped nuclei, but no leucocytes or round nuclei; many biliary ducts were present in the fibrous tissue, lined by normal epithelium, and containing round nodules of green, solid bile. The portal vessels and branches of the hepatic artery appeared normal, though their walls were more or less thickened. The fibrous tissue surrounded the lobules and penetrated between the columns of cells, and on pencilling, so as to brush away the cells, a stroma of fibroid material was left. The capsule was thickened. The nuclei of the cells stained readily; the contents were granular.

REMARKS.—This case resembles in many particulars those already published, references to which, giving more or less detail, will be found in Gerhardt's *Handbuch*, Wickham Legg on *Bile, Jaundice, and Bilious Diseases*, and in an article by Glaister in Vol. I., *Lancet*, 1879. Various views have been taken of the pathology of these cases. On the one hand, it is asserted that the absence or imperfect condition of the common or hepatic duct is due to a failure of development, to be followed by a biliary cirrhosis similar to that produced by ligature of the common bile-duct in cats and other animals; in other words, that the obstruction to the ducts is primary, the cirrhosis secondary. On the other hand, it is asserted that the cirrhosis is due to an interstitial hepatitis or peri-pylephlebitis of syphilitic origin, and that the obliteration or atresia of the large ducts is due to this cause, or follows in consequence of disease.

It appears to me that the first alternative, which implies a failure of development in the large ducts, is improbable, especially when we remember that several cases have occurred in successive children of the same mother, and that in many cases reported there was a history of syphilis. Syphilis is well known to produce both interstitial hepatitis and peri-hepatitis. It seems most probable to suppose that, in my case, during early fetal life, an inflammatory condition of that portion of Glisson's capsule which enters at the transverse fissure supervened, leading to complete obliteration of the biliary channels at this point, and passing upward into the liver. The functionless condition of the hepatic duct leads to its gradual obliteration, and to the gall-bladder and cystic duct remaining small. A difficulty arises in that it is not at first clear why the system of biliary vessels should be singled out for compression and not the portal or arterial system. We must, however, remember that the tension of the blood in the portal vein and hepatic artery will be considerable and offer a resistance to the cicatrizing lesion, while the tension of bile in the ducts during fetal life would be practically nil. This view of the case is rendered the more probable by the fact that, in the microscopical sections, the fibrous tissue appears to surround the branches of the portal vein and artery as freely as it does the biliary channels, and that the walls of the vein and artery appear more or less hypertrophied.

TREATMENT OF DYSENTERY WITH BISMUTH PER RECTUM.

BY F. E. WAXHAM, M.D.,

Professor of Diseases of Children, College of Physicians and Surgeons of Chicago.

INFLAMMATION of the lower portion of the colon, attended with bloody and mucous discharges, tenesmus, frequent desire to stool, and oftentimes with prolapse of the rectum, may be modified and its course often quickly abridged by the use of bismuth per rectum. Other treatment has always been unsatisfactory in my hands, the cases progressing slowly and often requiring two or three weeks to overcome. I recall one case where it required six weeks, although the usual treatment advised by our best authors was closely followed.

Knowing the good effect of bismuth when administered per orem in the various diseases of the gastro-intestinal tract, and observing the beneficial effect of this remedy when applied locally to abraded surfaces, I was led to believe that it would be equally efficacious in inflammation of the rectum when applied directly to the inflamed surface. This method of treatment has been highly successful, and I feel justified in advising others to adopt it. In very severe cases, opium in some form, preferably the tincture, may be added with benefit.

From ten to twenty grains of bismuth are administered with mucilage of acacia and water after every evacuation, and if not sufficient in itself to control the frequent stools a little laudanum is added. Recently a child suffering from a severe attack of dysentery, with prolapse of the rectum with every passage, was almost immediately relieved. Within twenty-four hours the character of the passages was entirely changed, the tenesmus and frequent desire to stool relieved, and the prolapse not recurring after the second or third administration. This is only one of many cases where this remedy has been used with gratifying result.

INCONTINENCE OF URINE.

BY I. P. KLINGENSMITH, M.D.,

Blairsville, Pa.

THIS affection embraces a wide field, and may be due to a great variety of circumstances. Its cause is often difficult to elucidate, and its treatment unsatisfactory. The first step, and one which is always of paramount importance, is to make out a correct diagnosis, otherwise all remedial measures will simply prove empirical, and in a vast majority of cases futile. I shall not make it my mission to investigate all the phenomena of this malady, but to call attention to the necessity of a thorough physical examination in every case. If the cause be of a surgical character, we may usually bring about a speedy and radical cure of the disease. The special aim of this article is to bring more prominently to notice one of the surgical causes of incontinence of urine, which in many instances is entirely overlooked by the physician. I refer to those cases in which congenital phimosis exists. This condition acts as an exciting cause, producing incontinence by reflex action. In defence of the theory advanced, I will give the history of several cases occurring in private practice:

Case I.—R., a bright lad of four years of age, of rather delicate organization, but of good family history, had been suffering from nocturnal incontinence of urine, for which he had been treated by several physicians without any degree of relief. When my attention was first called to him, I made a careful examination, and found a condition of congenital phimosis existing. I at once advised that circumcision be performed. The consent of the family was readily obtained, and, with the assistance of the late Dr. W. C. Coleman, of Latrobe, Pa., I proceeded to circumcise the child. An anesthetic was administered, and the operation was soon completed. We found the prepuce firmly adherent to the glans penis, with a quantity of hardened smegma behind the corona glandis. The edges of the mucous membrane were properly united with the prepuce by means of silk sutures, and a cold-water dressing applied. The recovery was rapid, the wound healing by first intention. The operation at once effected a perfect cure.

Case II.—W., aged seven years, of good family history, had been suffering, to the great annoyance of his parents, since childhood from incontinence of urine. This case occurred in the practice of the late Dr. W. C. Coleman, of Latrobe, Pa. Upon making a physical examination, we found a tightly contracted prepuce, with the meatus red and swollen. After explaining to the family that the existing condition was the probable cause of the malady of their child, they submitted to have the necessary operation performed. The result was a rapid recovery and immediate restoration of the functions to a normal condition.

Case III.—L., aged three and one-half years, presented the picture of health. The mother stated that there was almost a constant dribbling of urine, while at other times it was passed with great difficulty. Priapism had also been frequent, and the child complained of pain. A physical examination revealed the existence of a congenital phimosis. With the assistance of Dr. D. Emmett Welsh, of Latrobe, Pa., the child was circumcised. There were no adhesions around the glans. The operation was accompanied by considerable hemorrhage, which was soon arrested. In this case, as well as in the preceding two, the involuntary discharge of urine ceased immediately.

LONDON LETTER.

THE TREATMENT OF POTT'S DISEASE AND OF CLUB-FOOT IN THE ROYAL ORTHOPEDIC HOSPITAL.—THE TREATMENT OF HIP-JOINT DISEASES IN THE ALEXANDRIA HOSPITAL.—THE GENERAL HOSPITAL FOR SICK CHILDREN.

LONDON, July 10, 1884.

After having had a little rest, I will try to fulfil my promise, and communicate to you what may be of interest. I enjoyed a beautiful sea-voyage, and arrived in London June 25th, and have spent about ten days here, the greater part of the time I occupied visiting the hospitals. First, the Royal Orthopedic Hospital,—Mr. H. F. Baker (house surgeon), has forty beds and about 1,400 patients per year, the beds all occupied. Mr. B. treated us very kindly and spared neither pains nor time in showing his apparatuses, and the object they aim to accomplish. For Pott's disease he mainly depends upon rest; he fits and applies a well-padded cushion to the back and laces it in front. I called his attention to my method of employing India-rubber water cushions, in the same manner and for the same purpose; the idea he approved of very much. In lateral curvature he prefers the steel braces instead of the plaster jacket. For club-foot tenotomy is the rule, afterwards mechanical support that will keep the feet in proper position.

Next we went to Alexandria Hospital, "for diseases of the hip in childhood," 18 Queen's Square, Mr. H. Marsh, attending surgeon. This is a very neat little hospital; has forty beds, and about 150 patients per year. Here you can see nothing but diseases of the hip, in all the stages. He treats his patient with perfect rest in bed, in the horizontal position, a strap around the chest, and a weight fastened to the feet, with long side-splints outside on both legs; no counter-extension. Some of those little patients are here as long as six to twelve months. Mr. M. does not believe in extension and counter-extension, but makes traction in the direction of the deformity, and, if necessary, gives chloroform and brings the leg gradually into its normal position, opens all abscesses early, and resects the head of the femur but seldom. He has a remarkable success, and I saw some very pretty results among his patients. He does not believe in Sayre' splint; he uses Thomas' long splint; and thinks there can be no extension, only rest.

Then Mr. M. took us over to the Hospital for Sick Children, 49 Great Ormond Street, where he is the consulting surgeon. It has about 1,100 in- and 12,000 out-patients per year. Here one can see all the various diseases that flesh is heir to. One very interesting case was a boy about four years old, from whose bladder a large stone had been removed about two weeks previously. The wound was doing well, and the patient also up to within a few days ago, when he became feverish, his abdomen was swollen, and a large, hard lump could be felt in the left iliac region; the attending physicians were in doubt about the diagnosis. Mr. M. had the little fellow chloroformed, examined with his finger per rectum, asked for a scoop, and removed large masses of hardened excrement. The swollen abdomen partly disappeared, and no doubt his patient will recover.

Mr. M. is a very pleasant gentleman, and proud of his profession.

It would be impossible for me to give a description of all the interesting cases now. However, when I return home, and can do things more systematically, I shall compile my notes and comment upon them.

In my next letter I will give you a preliminary picture of the children's hospitals in Frankfort-on-the-Main.

E. B.

Current Literature.

1. HYGIENE AND THERAPEUTICS.

Chapin: The Prevention of Summer Complaint. (*Med. Record*, July 26.)

Under the general term, "summer complaint," are included simple functional diarrhea, inflammatory diarrhea, dysentery, and cholera infantum, as they occur during early life in the heated part of the summer. Cholera infantum is rather a rare disease. The term should only be used when the true choleraic discharges are present. The causes of summer diarrhea are well known, but do we insist with sufficient stress upon their palliation or removal? One of the most frequent, and to a great extent preventable cause, is improper feeding. The indigestible contents of the stomach and intestines speedily undergo fermentative changes that eventuate in the formation of butyric and fatty acids. These irritating acids frequently stimulate the intestinal follicles to excessive secretion, and increase the peristaltic movements. The indiscriminateness of the diet allowed to young children is a matter of continual surprise. Too early weaning of infants, especially just before or during the hot months, is a fruitful source of trouble, and should always be avoided. Babies are often removed from the breast at this season for the most trifling reasons. Despite menstruation, and even pregnancy, it is often better for the infant to continue nursing until the weather becomes cooler. The thirst naturally produced by the heat causes the baby to wish to nurse, or take the bottle very frequently, and, as a result, colic and indigestion are soon induced, which often eventuate in diarrhea. The cause of this is evident. There is a continual rapid evaporation from the skin, and as a result of this fluid loss the watery parts of the food are quickly absorbed to make up the deficiency, leaving the thickened solid part to ferment and cause irritation. This cause of diarrhea can be removed by giving milk or other nourishment only at suitable intervals, but allowing the baby to drink frequently of water, administered in small quantities at a time. Thin barley-water often agrees better with the stomach in hot weather, except in very young babies. Restricted nursing and a more liberal supply of water would prevent many attacks of diarrhea in infancy. The intense heat of the summer months forms a factor in infantile diarrhea that is not so easy to eliminate. Heat acts directly and indirectly in causing the mortality due to summer diarrhea. It acts directly on young children by depressing and rendering more susceptible their nervous energy, by enfeebling the digestive organs, and by increasing but weakening the action of the heart. The indirect effects of heat are caused by fermentative changes in the food of infants and in surrounding domestic and civic filth. There is a plain indication here for preventive treatment. The physician must insist upon the most scrupulous personal and domiciliary cleanliness during the hot months, while Boards of Health look after the condition of sewers, streets, and drains. Fermentative changes in milk can be largely obviated by boiling it when fresh to destroy all germs, and then adding a little alkali. The direct effect of heat, aside from any increased foulness of the air that it induces, is shown by a table comparing the death-rate from diarrheal diseases in children between July and August, 1882 and 1883, in New York. In these years the mean temperature of July was from two to four degrees higher than August, and the death-rate was about double in the former month. In the same table it is shown that the mean temperature of July, 1882, was 1.33° higher than that of July, 1883, and there were 178 more deaths in children under five years from diarrheal diseases in the former month. The bad effects of great heat upon young children can to a certain extent be obviated by giving them a suitable bath every afternoon. If the children are old enough, place them in a tepid or warm bath, and let them play there for an hour. The skin will thus be kept active, the blood cooled by being brought to the surface, and evaporation continue for some time. If an infant begins to droop, it is well to give whiskey or brandy, in doses of from two to three drops for every month of its age up to a year, and repeated several times a day. It should also get plenty of fresh air in the cool of the morning and evening.

Simon: The Bromides in the Treatment of Disease in Children. (*Revista de Ciencias Medicas de Barcelona* [from the *Journal de Médicine de Paris*], June 10, 1884.)

Puche and Ricord began the use of the bromide of potash as an antisyphilitic, and its use has been recommended in the treatment of nervous diseases, especially in syphilis, by Lencock, Brown-Sequard, Gubler, and others. In addition to the bromide of potash, the bromides of sodium and of ammonium are efficiently used, and, less frequently, the bromide of potash and iron and the bromo-hydrate of quinine. With regard to the dosage for children under one year of age, twenty centigrams (3.1 grains) in two doses may be given daily, with a sufficiently large quantity of water. For children between one and two years of age, double the former quantity may be given; for those who are older than two years, one, two, or three grams (gram = 15,434 grains) may be given, until the physiological effect is produced. In some cases it is well to gradually increase the dose to the maximum, and then decrease again in the same manner. This plan is especially useful in the treatment of epilepsy. The physiological effect of the drug is to diminish the reflex sensibility of the mucous membrane of the pharynx and the isthmus of the fauces. Small doses will irritate the gastric mucous membrane and derange the appetite; larger doses may even produce an intense gastralgia. The action upon the heart is to regulate and diminish the number of beats, and there is no fear of a cumulative effect, as in the use of digitalis. The slowing of the circulation through the brain which follows the use of these salts causes decided drowsiness and somnolence, and tends to produce loss of memory; there is also a depressant action exercised upon the muscular system and upon the sexual appetite. These drugs are eliminated by the lungs and by the glands of the skin; the latter circumstance will account for the cutaneous eruption which is sometimes caused. In convulsions, cerebral irritation, and epilepsy among children, these salts are particularly appropriate. In the treatment of epileptiform attacks, which are symptomatic of cerebral lesions, the bromide of potash combined with the iodide constitute effective treatment, to be given in increasing followed by diminishing doses after the manner already mentioned. In cases of cephalalgia the bromide should be given for a few days, and repeated from time to time, and with it should be associated proper tonics and hydrotherapeutic treatment. In cardiac irritation occurring in persons fourteen or fifteen years of age, with whom there are palpitations, and more or less precordial constriction, and in some cases transitory hypertrophy, the bromides with squills may be efficiently combined. Such persons must be admonished to abstain from the use of wine, coffee, and highly seasoned food, and from violent physical exercise.

Keller: Maternal Impressions and Congenital Malformations. (Letter to *N. Y. Med. Jour.*, August 16.)

On May 22d the doctor was called to attend Mrs. A. in labor, who told him that the child would be deformed. When questioned, she said she had been frightened at a negro with a "reel foot" about the end of the first month of pregnancy. In order to test her imagination she was asked which foot, and she said the right one, and insisted that the child would be the same way. The head was found presenting and the labor went on well. In about an hour she was delivered of a large male child which had a talipes varus of the right foot. On May 23d it was found that the child had imperforate anus. An incision was made in the ano-perineal region to the depth of two inches, when, finding no traces of a rectum, the opening was closed. Littre's operation was proposed, but consent denied. On the 25th the child had two liquid stools through the urethra; it was nursing well and the wound closing. The condition continued the same until the 2d of June, when peritonitis set in, and the child died June 4th. Was the talipes varus due to the impression on the mother's mind? Was it merely accidental that the two deformities occurred in the same child?

Pellizzari: The Transmission of Syphilis. (*Jahrb. f. Kinderh.* [from *Jour. de Méd. de Paris*, Oct. 20, 1883], B. XXI., H. 4.)

The author remarks that he has observed since July, 1876, sixty-nine cases in which syphilis was transmitted by infants to healthy wet-nurses. In all the cases the infection was traceable to the nipples. In a third of the cases the husbands of the nurses had also become affected before the latter came to the author for treatment. In twelve cases there were severe and obstinate forms of syphilis. One of the women contracted the disease in 1862 from an infant which she was suckling; she gave it, in turn, to her own infant which she was also nursing, and to her husband. Her infant died; she and her husband received antisyphilitic treatment, but notwithstanding that she had four consecutive still-born children. The next two were delivered alive, but died in a few weeks from syphilitic disease. On account of energetic antisyphilitic treatment the seventh child survived. The eighth child, born fifteen years after the primary infection, showed unmistakable signs of hereditary syphilis. When the disease is conveyed by mother or nurse to a child it is usually through the medium of mucous patches in the mouth. An ulcerated surface is not necessary to infection, and it is probable that the primary affection is often overlooked or confounded with other lesions.

Condensed Mare's Milk. (Editorial, *Med. Times and Gazette,* May 31.)

The advantages of ass's milk over cow's in certain conditions of the digestive organs has long been recognized. The explanation is to be found in the fact that the casein of the milk of equine animals exists in a different form from that in which it does in the milk of the ruminants, being imperfectly, if at all, coagulated by acids, a property which is possessed by the casein of human milk. Ass's milk has been proved at the Foundling Hospital, at Paris, to be greatly superior to cow's milk in the nutrition of infants under three or four months of age, but as it cannot always be obtained, mare's milk will be felt as a boon by many. The manufacturers possess a stud and factory near Orenburg, on the borders of the Steppes of South-eastern Russia. It is put up in tins weighing ten ounces. Its consistency is thick; it is white in color, and has a honey-like taste; not more than three per cent. of cane sugar is added. The milk is condensed to one-eighth of its volume, *i.e.*, one-sixth of its weight.

May: The Infectiousness of the Milk of Tuberculous Cows. (*Jahrb. f. Kinderh.* [from *Arch. f. Hygiene,* B. I., H. 1], B. XXI., H. 4.)

The experimental work of the author to ascertain the danger, if any, of the transmission of tuberculosis by using the milk of tuberculous cows, enables him to decide in the negative. He found that only the milk of those animals in which the tuberculosis is general is of an infectious nature, though it is not necessary that the udder should be involved in the tuberculous process. The author quotes Vogl, of Dorpat, who states that in the neighborhood in which he lives tuberculosis in cattle is very common, and that the milk is in common use among the people. Miliary tuberculosis among children in this neighborhood is, however, of rare occurrence. Admitting the fact that the milk of tuberculous cows may be infective, it is certain that if the milk be boiled its infectiousness is destroyed. The author's search for bacilli in the milk of tuberculous cows was not attended with success, no bacilli could be found.

Uffelmann: An Establishment for the Artificial Nourishment of Children. (*Jahrb. f. Kinderh.* [from *Deutsche Med. Wochen.*, 38, 1883], B. XXI., H. 4.)

At the *hospice des enfants assiste's* there has been for the past two years a separate department, consisting of two rooms which are separated by a corridor, the latter leading directly to a stable, in which five asses are kept with their foals. In each room there is accommodation for four attendants and eight infants. The department is mainly used for those children who are the victims of hereditary syphilis, and they are suckled by the asses five times by day and three times by night. The quantity obtained at each nursing, as ascertained by actual weights, varies between thirty and two hundred grams. One ass will furnish nutriment enough for three infants, what is left going to the foal. Children who are fed in this way do remarkably well as compared with those who are fed upon cow's milk. The author says that seventy per cent. of them survive, while of those who are fed with goat's milk eighty-two and six-tenths per cent. die; hence the desirability of enlarging the field of action in this unfortunate class of patients.

Saltmann (Breslau): Treatment of Dysentery in Children. (*Jahrb. f. Kinderh.* [from 45th *Jahresb. des Wilh.-Aug. Hosp. in Breslau*], B. XXI., H. 4.)

The treatment which the author has adopted in the hospital under his charge is as follows: The children get a daily bath, and all the surroundings of the hospital are carefully disinfected. For nourishment iced milk and lime water, or coffee, are given, also beef tea, and in cases in which thirst is intense tea with rum or wine. It is quite necessary that the patient should have plenty of warm clothing upon him. The treatment is always commenced with a laxative, castor oil being preferred, either in emulsion or with lycopodium. After the second or third day liquor aluminii acetatis is given, both by the mouth and per rectum. A good preparation of this drug is to be found in the formula of Pollk, and consisting of 300 parts of the sulphate of aluminium dissolved in 800 parts of water, 360 parts of dilute vinegar being added. To this mixture should be added 130 parts of calcium carbonate dissolved in 200 parts of water. After standing for twenty-four hours this mixture must be filtered. The preparation which is recommended for the dysenteric cases consists of the foregoing mixture fifty grams, distilled water forty grams, syr. simp. ten grams, and it should be taken in tea-spoonful doses for two days. It is said to act quickly and most efficiently upon the diseased condition.

Makuna: Small-Pox Mortality in England and Wales and in London. (*Brit. Med. Jour.*, May 31.)

The mortality of infants under five years of age is diminishing decade after decade, while at other ages, especially in the third decade, it has increased. For England and Wales, for these three decades, the ratios of mortality of those under five years to all ages (only a portion of the table is given here) are as 4.6 to 1, 4 to 1, and 2.2 to 1; and for London, 4.2, 3.8, 2.5. This diminution shows the protective power of vaccination among infants, notwithstanding the increasing ratio for all ages. A large number die before they are vaccinated in epidemic years; and also a large number are vaccinated before they are three months old, when the human blood has not attained sufficient stamina of life to undergo that constitutional change through vaccine virus that could be looked upon as protective.

ENGLAND AND WALES.				LONDON.			
Decades, .	1851 to 1860.	1861 to 1870.	1871 to 1880.	Decades, .	1851 to 1860.	1861 to 1870.	1871 to 1880.
Under 5 years.	1,034	654	526	Under 5 years.	1,296	1,158	1,133
Bet'n 5 and 10	257	145	283	Bet'n 5 and 10	358	290	579
" 10 " 15	73	56	137	" 10 " 15	99	91	266

Yarr: A Nine-Day Incubation Period in Three Cases of Measles. (*Brit. Med. Jour.*, May 31.)

A boy, aged eight years, one of a family of four, all younger, had been attending school at a village a mile distant, where there were several cases of measles. The day previous to his being seen he had broken out with the rash. On the sixth day following the breaking out of the rash in this boy, the three others presented the usual signs of invasion, and on the third day following the rash appeared. The other children had not been away from home, or otherwise exposed, except through the one first attacked.

Braun: Concerning a Therapeutic Attempt in the Treatment of Small-Pox. (*Jahrb. f. Kinderh.* [from *Prager Med. Wochen.*, 3, 1884], B. XXI., H. 4.)

In severe cases of small-pox, the author recommends as a means for mitigating the intensity of the inflammation and suppuration, and thus limiting the scarring process, a linen bandage moistened with a mixture of clay or earth and vinegar. This should be applied to those places where the eruption is most severe, and the pain the greatest, especially upon the face and the extremities. A thin rubber cloth should be laid upon the linen one. Upon the face a cotton mask moistened with the mixture might be worn. By these means the eruption becomes paler, the red halos around the pustules disappear, and with a limitation of the suppuration, drying up, and only moderate scarring result.

Vaccino-Syphilis Experiments. (Editorial in *Brit. Med. Jour.*, May 31.)

With a desire to settle for himself the vexed question, Whether vaccine lymph taken from a syphilitic person, if unmixed with the blood of the vaccinifer, does not contain syphilitic virus, and is incapable of imparting syphilis by its inoculation? Dr. Cory made, at intervals, four separate experiments upon himself, with lymph derived from obviously syphilitic children. The last experiment was successful, and Dr. C. had to endure all the pains and penalties of syphilitic inoculation. The committee appointed to investigate Dr. C.'s experiments, consisting of Drs. Bristowe, Humphrey, Ballard, and Mr. Hutchinson, report that it is possible for syphilis to be communicated in vaccination from a vaccine vesicle on a syphilitic person, notwithstanding that the operation be performed with the utmost care to avoid the admixture of blood.

Leifert: Treatment of Diphtheria with Quinoleine. (*Jour. de Méd. de Paris* [from *Berl. Klin. Wochen.*], June 7, 1884.)

The author uses the following formula for a gargle in the treatment of diphtheria:

Quinoleine (pure), 1 gram (= 15.434 grains);
Aquæ dist., 500 grams;
Spts. rectif., 50 grams;
Ol. menth. pip., gtt. ij.

In a résumé of the cases which the author treated with this substance, ten showed marked improvement after twelve hours of treatment; swallowing became easier, and after forty-eight hours the false membranes disappeared. In one case applications alone of the solution led to a cure. Seven cases of diphtheria of severe form complicated with phlegmonous angina, and one of gangrene of the tonsils, demonstrated that this substance possesses a remarkable antiseptic power. It may be used in the form of applications as a gargle, or may be taken internally, and is useful both for children and adults. It produces a burning sensation upon the mucous membrane, but this does not last long. The pain which is peculiar to the disease is relieved by this substance. The chief objection which is raised to its use is its very bad odor, but its energetic and undeniable antiseptic properties are sufficient to overcome this objection.

Power: Scarlet Fever caused by Infected Milk (?) (*Brit. Med. Jour.*, May 31.)

Mr. W. H. Power in a report upon the cause of scarlet fever in a certain district in London, intimated that it was due to milk infected with the disease. There were no cases of scarlet fever at the farm where the milk was obtained, and it was certain that it was contaminated before it reached London. Mr. Power was led to the theory that the milk was infected by the cow herself, and that she could transmit it without manifesting any signs of the disease. Dr. Klein has found that if a cow who has recently calved be inoculated with human scarlatina, she is affected by an ailment not accompanied by fever or by any alteration in the quantity or visible qualities of the milk. This disease could, in Dr. Klein's opinion, be inoculated upon dogs and the disease thus induced could be transmitted to other dogs.

The Protective Property of Vaccination; Insusceptibility of Young Children. (Editorial, *Brit. Med. Jour.*, May 31.)

An outbreak of small-pox occurred recently at Hull caused by children of a family, where one unvaccinated had died of the disease, going to school and mingling with the others. (It is only just to say that the disease had been taken for measles by a druggist.) Of seventeen of their classmates who were attacked fifteen were girls. The children who were the carriers also had it. Those previously vaccinated had it lightly. The younger children to a great extent escaped, although equally exposed.

Lassar: Treatment of Eczema of the Head. (*Jour. de Méd, de Paris,* June 14, 1884.)

The author proposes as a specific for eczema of the scalp, both in children and in adults, the following treatment. The head should first be carefully washed with soap and water and then applications should be made two or three times a day of a mixture containing three per cent. of salicylic acid, five per cent. of tincture of benzoin, and *quantum sufficit* of vaseline.

2. MEDICINE.

Finlayson: Round-Cell Sarcoma of Left Peduncle of Brain. (*Glasgow Med. Jour.*, July.)

A male child when ten months old had whooping-cough severely, lasting six months; since then he has been irritable without any definite symptoms. When about a year old he had a discharge from the left ear lasting two months, which, however, returned in a year's time, only lasting a day. When about eighteen months old he is said to have been frightened by another child, which brought on an attack of vomiting. Since then he has been unwilling and unable to stand. When twenty months old there was beginning ptosis of the left upper eyelid with drooping of the right side of the face; the right arm was also weak and unsteady. A month afterward the pupils were equal, but there was slight deviation of the left eye outward. Sometimes he was feverish, bowels constipated. "He often indicated when his bowels were going to move or when he was about to pass water." There were no convulsions or screaming. On admission, feeble, unable to stand or use the right hand for grasping. There was a tendency to fall to the right side. During the day he was restless, tossing and swaying his body; slept well at night. Examination of ear revealed nothing. Examination of the eye only confirmed the ptosis and divergent strabismus of the left eye. He was ordered iodide and bromide of potash, but the latter was stopped as it appeared to make him drowsy, but this seemed subsequently as if due to the disease. As the disease advanced there was ptosis of the right upper eyelid, and the paralysis of the right side of the face became more marked. Within a few days of death the eyelids were separated to a greater degree, as if the orbicular palpebrarum were becoming involved in the paralysis; but as there was not any paralysis on the left side of the face, it was more probably due to some varying pressure within. The head was now turned to the right shoulder. Two days before death there was unconciousness, some rigidity and even convulsive movements, interrupted by short periods of consciousness when swallowing was possible. He died twenty-two days after admission. The temperature during the first three weeks in hospital went up occasionally to 100° F.; during convulsions to 103° F. It could not be definitely ascertained that he had pain in the head, although he put his left hand up to it.

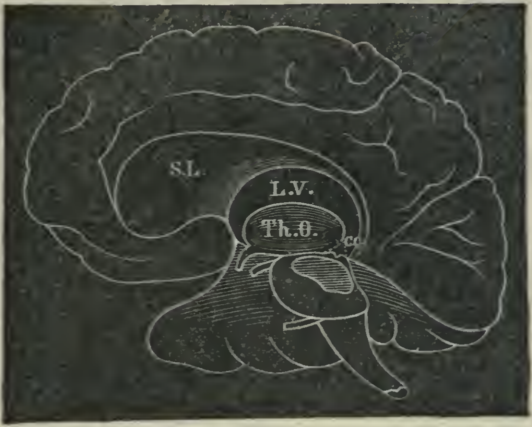

Diagram showing the position of the tumor. The left hemisphere of the cerebrum and the whole of the cerebellum have been removed. The *Septum Lucidum* remains, S.L., and the greatly dilated *Lateral Ventricle*, L.V., is exposed with the *Thalamus Opticus*, Th.O. The tumor projected more to the left than to the right of the median line, reaching nearly to the *Corpora Quadrigemina*, C.Q.

Autopsy.—Brain: surface drier than normal; fluid at the base; ventricles greatly distended. A tumor 1½ inches in thickness and ¾-inch in breadth was found just above the pons involving the left peduncle; it was separated from the lateral ventricle by about ⅛-inch of apparently normal tissue and from the floor of the fourth ventricle by the thickness of a sheet of paper. It was of firm consistence and yellowish gray color, clearly defined from the brain-substance. (See figure on preceding page.)

The third nerve seemed as if compressed against the base of the skull. Microscopic examination of the tumor showed the structure of round-cell sarcoma. During life Dr. F. had stated that the tumor would be found to exist on the left side involving the peduncle of the brain.

Althaus: Spinal Sclerosis. (*Brit. Med. Jour.*, May 31.) Of fifty-two cases of tabes dorsalis, in only one did it begin under twenty years of age. This patient, a girl aged nine years, had been staying at the seaside and been paddling a good deal in the cold water with her naked feet. After a time she experienced lightning pains in different parts of her body, which were short, sharp, and agonizing, and caused her to scream. When she came under observation these shocks occurred chiefly in the left knee, where a stabbing pain was felt every two or three minutes. The knee-jerk on both sides was absent. There were no other symptoms, and she did not appear to have ever been subject to symptoms of inherited syphilis. The pain resisted the use of nitrate of silver in one-eighth grain doses, and also applications of the constant current; but yielded completely to ten minim doses of fluid extract of ergot, t. i. d. The patient has not been seen since, and it is not known whether the patella reflex has returned or not.

Howard: Infantile Paralysis; Recovery. (*Lancet*, May, 31.) A girl, aged twelve years, when two years old, suddenly lost the power of motion in her right arm and leg. Gradually she regained some power, so that now she can raise the arm slightly and grasp feebly with the hand, the latter with the fingers being slightly flexed. She is unable to extend them. The muscles are wasted, flabby, and the skin cold and bluish-purple in color. The lower extremity is in a worse condition, emaciation being more advanced, and she has less power in moving it. Sensation is normal; electric contractility diminished. The foot is inverted, and she walks with difficulty. Morbid anatomy: That portion of the cord which furnishes the nervous supply to the paralyzed muscles shows a marked diminution in the number and size of the motor ganglion cells of the anterior gray cornu and atrophy of the axis cylinder of the nerve fibres with increase of the connective tissue in the antero-lateral columns. In the earlier stages there are hemorrhages and other evidences of inflammation. The muscles undergo fatty degeneration. The circulation is feeble, and ulceration from slight pressure is very liable to occur. Treatment: Warmth to the parts, friction, warm douche, shampooing, and passive exercise; tenotomy if necessary. Under this treatment the patient, after several months, could walk with scarcely a perceptible limp; the color was almost natural; grasp firm; could pick up a pin and sew.

Eröss (Budapest): Simulated Diseases in Children. (*Jahrb. f. Kinderh.*, B. XXI., H. 4.)

The author notes the sparseness of the literature of this subject. Only three recorded cases have rewarded his search, but he thinks that the fact remains that such conditions are not of infrequent occurrence. Chief among them may be mentioned epilepsy, convulsions, and paralysis, which children learn to imitate, the motive being, usually, to excite sympathy or attention. An irresistible impulse to imitate disease is also sometimes noticeable, as is instanced by epidemics of chorea or pseudo-chorea, which are sometimes seen. Presupposing that these conditions occur usually in children of highly excitable or nervous disposition, the author finds one factor of causation in the subjective condition of the patient, and the other in external circumstances, the latter acting as an irritant to the psychical element. The diagnosis having been clearly made out—and this is not always an easy matter—the only thing to be done is to thoroughly expose the shamming propensity of the child, and sympathy and interest being removed, no further motive for simulation will remain.

Neale: Imperforate Pyloric Extremity of Stomach, and also of the Duodenum. (*Lancet*, June 7.)

A new-born child was fed with milk and water, the mother having no milk, which was vomited without effort in half an hour. The food was changed, and various remedies given, but to no purpose. Meconium was passed by the bowels. Urine passed once on the first day. Death on the fourth day from inanition.

Autopsy.—The stomach seemed to be swinging about by one end. The pyloric portion was unattached, but near the duodenum. The pyloric ring was absent, the extremity being blind. The pyloric end of the duodenum was also imperforate. All the other organs were normal. No cause could be found in the family history or otherwise. The mother was a multipara, the previous child having been born nine years before.

Vost: Tubercular Tumor of the Cerebellum. (*Glasgow Med. Jour.*, July, 1884.)

A healthy-looking boy, aged twelve years, was admitted to the hospital with the following history: Family history very bad, nearly every member having some form of tubercular disease. Six days before admission he was taken ill with a feeling of malaise, followed in two days by a purpuric rash all over the body. He also had a cough. Shortly after taking ill, he staggered when walking, and sometimes fell. He complained of pains in the left side. When admitted, he was unable to walk. He lay in bed with the thighs flexed on the abdomen, and complained when they were extended. There is no paralysis of sensation or motion, except that he does not protrude his tongue when asked to do so. No priapism. His eyes are fixed, pupils extremely but equably dilated, and do not respond to the light. He picks his nose and the canthi of his eyes; tongue dry, teeth covered with sordes, no vomiting. He is talkative and querulous. On the four following days his symptoms became worse. He lay in the same position, but could not bear the light. He knows the names of his family when asked, but does not know where he is; thinks he is home. He complains of "roasting" pain in the abdomen and lower portion of left thoracic region, also pain in his forehead. When given a cup of milk, he takes it in his hands, but cannot direct it to his mouth. Tache cérébrale well marked. Urine drawn by catheter. He gradually sank and died the fourth day. On the night of admission, the axillary temperature was 102° F., and on the morning of the four following days, 102.2°, 102.4°, 102.4°, 101.6°; evening, 101.8°, 101.6°, 100.8°, 100°. Pulse, the morning following admission, 110, and last day of life, 156. Respiration, 56.

Autopsy.—A tumor the size of a walnut, of a greenish-yellow color, granular, not involving the brain-substance, but let into it, as it were, was found occupying the under surface of the left lateral hemisphere of the cerebellum. The pia mater was congested and studded with tubercles. At the upper part of the left lung was the remains of an old-standing pleurisy, probably tubercular, as glands with caseous matter were found at the root of the same lung. Nothing could be found to explain the pain felt at the lower portion of this lung. Right lung healthy. Microscopical examination showed the tumor to be made up of round cells very imperfectly organized. It also contained tubercles. Laminæ of cerebellar fibres intersected the tumor.

Fare: Salaam Convulsions. (*Archivio di Patol. Inf.* [from *Progrés Méd.*], May, 1884.)

Salaam convulsions, salaam tic, neuropathic salute, as the disease is variously known, is usually seen in children, very rarely in adults. It consists in a convulsive attack manifesting itself in an antero-posterior movement of inclination of the head and a moderate flexion of the body, repeated from twenty to a hundred times a minute. These phenomena may collectively be taken as a symptom the diagnostic value of which has not yet been fully established. The phenomena were first observed clinically in 1849, by Newham, and since then attention has been called to the subject by Faber, Ebert, Barnes, Demme, and others. In addition to the movements already mentioned, one sometimes sees convulsive movements of the shoulders, of an arm, or a leg, and in some cases nystagmus and blepharo-spasm. Sometimes there are only partial convulsions, with oblique inclination of the head to the side which is opposite to the one on which the sterno-mastoid muscle is undergoing contraction. When both sterno-mastoids are in contraction the head is, of course, thrown forward. With some children the convulsions are unattended by other symptoms; with others loss of consciousness prevails. They (the convulsions) may be preceded by a pallid face, with staring expression, and mydriasis, or by hebetude, and general weakness of the intellectual faculties. In a case which was recorded by Steiner, a cerebral tumor was found *post mortem*, which must have given rise to the spasmodic phenomena. Whatever its possible origin may prove to be, the author thinks we have evidence sufficient to conclude that it *cannot* be an affection which is due to weakness of the peripheral nerves.

Church: Enteric Fever. (*Med. Times and Gaz.*, June 28.)

A girl, aged three years, on the eighth day of her illness showed rose-colored spots on the abdomen; on the thirteenth day the temperature suddenly rose from 100° to 103° F.; both parotid glands began to enlarge and rapidly increased and suppurated, and abscess also formed on the scalp. The girl recovered. A boy, twelve years old, was admitted with typhoid fever. On the twelfth day rose-colored spots occurred, and he had two loose motions containing blood. On the twenty-first day purpuric spots appeared on the abdomen. He died on the twenty-third day. The autopsy showed the colon full of blood and fecal matter.

Mraick (Vienna): Enteritis in Hereditary Syphilis. (*Jahrb. f. Kinderh.*, B. XXI., H. 4.)

Out of two hundred cases of hereditary syphilis, ten were found to have syphilitic disease of the intestines. The syphilitic changes which were produced were all of a typical character, whether spread over the entire intestinal surface or over only a very limited area. They were usually found in the small intestine, and very rarely in the stomach or large intestine. The upper end of the jejunum was the portion which was usually affected, either exclusively or principally. The lesion was in the form of infiltration around the intestinal *plaques*, or in the form of regularly arranged nodes; in some cases the two varieties were intermingled. The infiltration was noticeable from the yellow color and elevation of the tissue, the patches being about as large as a lentil. When the infiltration surrounds the Peyerian *plaques* it presents the appearance of a deep oval depression. The patches are covered outwardly by thickened peritoneum, often show a strongly outlined loss of substance in the centre, while the base is formed by the infiltrated submucous tissue. The diffused nodules, which vary in size from a millet-seed to a lentil, are located, for the most part, in the circular muscular fibres, never show reticulation, as do occasionally the patches of infiltration. Should they extend, *i.e.*, the nodules, as far outward as the serous membrane, the latter will be found to be infiltrated, injected, and thickened like a false membrane. These nodules also appear to have suffered loss of substance. Microscopically the infiltration masses, as well as the nodules, represent a small-celled infiltration of the coats of the intestine, and seek, by preference, the tissues contiguous to the vessels, the *adventitia* of which, being free from capillaries, seems to be the starting-point for the series of changes involved in the process described. The lymph vessels participate in this process only slightly and indirectly. In addition to the phenomena mentioned, one will also find in these cases symptoms of diffuse inflammation in the intestinal mucous membrane, thickened masses of meconium, and in the peritoneum thickenings and false membranes. The result of these conditions may be bands of adhesions, growths in the peritoneal cavity, dilatations and narrowings of the intestinal tube, and swelling and thickening of the mesenteric glands. The intestinal phenomena are accompanied with characteristic syphilitic phenomena in other parts.

Parsons: Etiology of Diphtheria. (*Med. Times,* June 14.) The mortality from diphtheria is greatest in the fourth quarter of the year and between the ages of one and five years; more fatal among females than males, and in rural districts than in towns. Infection from a previous case is the only certainly known method of origin. The susceptibility to the disease varies greatly, often being greatest in particular families. It is infectious in its early stage before its characters are pronounced and also after apparent recovery. The infection also attaches itself to houses, and may be conveyed by persons living in an infected air who have not themselves suffered from the disease. There is reason to believe that it may be propogated from cases of sore throat of a mild character, such as frequently are prevalent at the time of diphtheritic outbreaks, but which do not themselves present the typical characters of the disease. The length of incubation is from two to five days. Diphtheria and scarlatina are often associated, and one has often appeared to have been contracted from the other. One is not protective against the other, nor against a second attack. It may occur as a complication of measles, enteric fever, and erysipelas. It can be imparted to the lower animals. Animals have diseases differing from diphtheria which may give rise to it in man. Whether it can be imparted by milk is still unsolved. The character of the soil does not appear to have any influence. Oertel and other German observers have found a micrococcus abundantly developed in the affected mucous membrane.

Tweedy: Paralysis of Accommodation after Diphtheritic Sore Throat. (*Lancet,* June 14.)

Four patients, all girls, one seven years of age, two ten years, and one fifteen years, were attacked with imperfect vision from two to four weeks after a slight attack of sore throat, not, apparently, supposed to be diphtheritic. Two had hypermetropia of one dioptre (20 inches English); one, one dioptre, and one three dioptres. Mr. T. said it was not to be supposed that paralysis of accommodation occurred only after mild cases; the truth being that severe cases, being followed by a long and tedious convalescence, and there being so much general prostration, that any impairment of sight was regarded as a part of constitutional weakness. In hypermetropia, the focus for the lens system of the eye lies behind the retina, so that a certain amount of contraction of the ciliary muscle is needed, even for parallel rays of light. A myopic person may have post-diphtheritic paralysis of accommodation, and not suffer any inconvenience, but even fancy sight somewhat improved, especially for distance. Treatment, arsenic or quinine, and a weak solution of eserine applied locally.

Greenway: Tubercular Meningitis Treated by Phosphorus. (*Brit. Med. Jour.,* June 14.)

In four cases of tubercular meningitis, all were cured by taking two to four minims of Fauconnet's syrup (a French preparation) in a dram of simple syrup, every four hours. One of these cases had, in addition, chronic hydrocephalus. The head became smaller with improvement in the meningitis. One case convalesced in three weeks, another in eleven days.

Bradbury: Tubercular (?) Meningitis; Recovery. (*Brit. Med. Jour.,* June 14.)

A girl, two and a half years of age, was admitted to the hospital March 13, 1884. Family history good. Twelve days previously she had vomited, and it was noticed that she had a slight convulsion. Her head was retracted, and she had constant headache for a week, causing her to scream at night. Until April 7th her condition remained the same, the temperature varying between 103° and 97°. Her friends took her away, but she was re-admitted June 14th. The previous symptoms were more marked; she had lost flesh rapidly; vomiting constant, and squint occasionally noticed; pupils acted readily and equally;

temperature erratic, between 102° and 98°—higher in the evening than in the morning; she had ceased to recognize her parents. She was given 1½ grains of iodide of potash, soon increased to 2 grains, with cod-liver oil ʒss., t. i. d.

July 26. Vomiting has ceased; squint less frequent; retraction of head continues; right leg extended and rigid; neither leg moved.

August 16. All the symptoms improved; temperature lower and less variable.

November. All the symptoms have cleared away; she recognizes her parents and can say a few words; her mental condition, however, is impaired.

Dr. B. thought the above a case of tubercular meningitis, although the average duration of the disease is three weeks.

3. SURGERY.

Fagan: Excision of Scrofulous Cervical Glands. (*Dub. Jour. Med. Science*, June, 1884.)

Mr. J. Fagan has operated upon about twenty-five cases, all with good results. On the continent, especially in France, the operation is frequently performed, but in this country (Great Britain) it has been neglected. He quotes fully several of his cases. The chief points are: The incision over the gland should not be too free, but all the structures, from angle to angle of the skin-wound, should be divided; when the gland has been well exposed it should be seized by tenacula, drawn out, and its attachments severed; all the bleeding points having been secured, the wound is washed out with solution of chloride of zinc. He employs small tubes or horsehair as drains; uses silver wire for sutures, adjusting the edges accurately. The sutures are removed not later than the third day. In order to maintain the dressing *in situ*, a night-cap is put on, the strings of which are fastened to a thoracic binder and drawn so as to bring the head well forward on the chest. A very slight scar remains.

Wills: Bilateral Fracture of Femur, etc. (*Brit. Med. Jour.*, June 21.)

A boy, aged twelve years, was struck by a locomotive and dragged forty-five yards. He was removed in an unconscious condition to the hospital. The right femur had suffered a simple fracture at its middle, and the left a comminuted fracture at its middle third; the face was bruised and lacerated so that he was scarcely recognizable. Consciousness returned the second day. The fractures were kept in position by sand-bags, and it was not until the seventh and fifteenth days, respectively, for the right and left thighs, that splints could be applied, and then extension was made only by weights. In two months he was discharged, both legs being perfectly straight and as useful as ever. This case illustrates the rallying power of youth.

Cayley and Gould: Gangrene of Lung; Drainage; Recovery. (*Med. Times and Gazette*, May 31.)

A girl, twelve years of age, who four years previously had scarlet fever followed by otorrhea, now had an acute abscess over the left mastoid process, and extensive denudation of bone about the external auditory process. The abscess was opened and some soft necrosed bone removed. In ten days she had pyemia, followed in five days by pleurisy and signs of consolidation at base of right lung. Eleven days afterward there were signs and symptoms of a cavity with gangrenous contents. Mr. G. at a point where there was "bubbling crepitation" introduced a large trocar and canula, and through the latter a large drain-tube. Fetid pus and gangrenous lung-tissue were passed through the tube. At the end of forty days the patient was discharged cured.

Attygalle: Puncto-Lacerated Wound of Abdomen; Intestines Protruding; Recovery. (*Med. Times and Gaz.*, May 31.)

A Singhalese boy, aged ten years, entered the hospital at Kandy, Ceylon, with nearly the whole of the small intestines protruding through a wound in the abdomen, made by the horn of a buffalo. The sand and leaves adherent to the intestines were washed off with a weak carbolized solution, the bowels returned, and the wound brought together by stitches. Opium was given freely. Recovery took place without difficulty.

Walker: Amputation of Thigh; Psoas Abscess; Meningitis; Death. (*Brit. Med. Jour.*, May 31.)

A girl, aged four years, had one of her legs torn off, by a revolving belt, at the junction of the lower epiphysis of the femur to the shaft. Thigh was amputated through the middle; arteries twisted; wound washed with hot iodine solution; drain-tube inserted; wound united by silk sutures and dressed with terebene (a mixture made by boiling together sulphuric acid and oil of turpentine). On the ninth day patient was feeling badly; great thirst; morning temperature, 102.8°. The wound had not been dressed until the fourth day, and then every day since. The flaps had united externally, but not internally. She gradually became worse; constantly crying out; discharge from wound became less. Death on nineteenth day.

Autopsy.—Yellow-whitish lymph effused over frontal and parietal convolutions, and purulent fluid at base of brain; brain-substance soft; all organs healthy; a small quantity of lymph on parietal layer of right pleura. A collection of pus was found in the psoas muscle extending to the lesser sacro-iliac foramen.

Walker: Excision of Knee-Joint; Deformity; Osteotomy of Femur; Good Result. (*Brit. Med. Jour.*, May 31.)
A boy, aged six years, had disease of the right knee of ten months standing, A back-splint was put on, but dislocation backward commencing, the knee was excised. After the operation the knee became flexed to an angle of 60°, and had to be forcibly straightened. Three years afterward (the present date) he returned, the knee being bent at the old angle. Osteotomy was done, just above the condyles, the leg straightened, and a splint applied. Four months afterward he left the hospital with the limb in very good position. The highest temperature was on the evening of the tenth day, viz., 101.6°.

Traumatic Idiocy. (Editorial, *Brit. Med. Jour.*, May 31.)
A girl, five years of age, was severely injured at birth by falling against a sharp piece of furniture, striking her head between the eyes. A small quantity of blood and pus flowed from her nostrils for nearly a month afterward. She has not been well since. She understands all that is said to her, but speaks only a few words. She cannot be taught to be cleanly. She has two brothers and sisters who are perfectly healthy in every respect. The editor suggests that some damage was inflicted upon the frontal convolution which has arrested mental development. Treatment: Education by persons skilled in instructing children afflicted with the slighter degrees of idiocy.

Rhys: Separation of Lower Epiphysis of Femur. (*Brit. Med. Jour.*, May 31.)

A boy, aged six years, was riding behind a brougham when his right leg became entangled in the wheel. On examination it was found that the epiphysis with the tibia was driven upward and inward, the diaphysis projecting nearly through the skin on the outer side. The limb was shortened two inches; foot inverted; considerable effusion into knee-joint. The limb was put up in sandbags, and the following day in a MacIntyre splint. In a little over a month's time the bone had united; in another month he stood well, and could walk with the aid of one crutch.

Palmer: Encephalocele from site of External Occipital Protruberance. (*Lancet*, June 14.)

A primipara had not been in labor long before a gush of blood took place. Examination found a large mass protruding from the vagina. The mass was about eight inches long, the size of a small cocoanut, partly covered by skin and partly by a fibro-serous membrane; the latter had been ruptured during the labor, exposing a cavity containing broken-down coagula and other matter. The child was still-born a few hours afterward, and appeared a healthy, perfectly-formed male. An examination of the tumor showed that it corresponded to the space between the four ossific centres of the occipital bone; corresponding in the ossified state to the external occipital protruberance.

Reid: Small-cell Sarcoma on the Stump of a Removed Eye-ball. (*Glasgow. Med. Jour.*, July.)

A girl, aged four years, who had received a blow upon the forehead three months previously, began to loose the sight of her left eye, the eye-ball being painful and the pain extending to the temple. A year afterward the eye was removed. Examination showed that the retina was completely separated, a grumous fluid filling the space between it and the choroid; optic nerve healthy; no specific growth could be detected. Two months later she had severe pain in the forehead and temple, followed by a swelling occupying the bottom of the orbital cavity, which gradually protruded between the lids. It was diagnosticated as malignant and removed. Microscopical examination showed it to be a round-cell sarcoma of a brain-like consistency, with the healthy stump of the optic nerve imbedded in it, the sheath being somewhat thickened and continuous with the tumor. A month afterward the vision of the right eye was lost, showing the existence of a cerebral tumor. Except the headache there were not any symptoms pointing to intra-cranial disease.

Knox: Glioma of the Retina; Removal of Eye-ball. (*Glasgow Med. Jour.*, July.)

The patient was a boy, two and a half years of age, of a strumous habit. The usual yellow reflex from the fundus had been well marked. The eye-ball was enucleated, and all went well for five weeks when recurrence took place in the tissues of the orbit. It grew rapidly, in three weeks reaching the size of a small apple, filling the cavity and distending the eye-lids. It was deemed unadvisable to remove it. A microscopic examination of the removed eye showed the characteristic small-celled growth of a glioma, which had sprung from the retina and passed outward along the optic nerve, through the choroid and sclerotic tissues, infiltrating and partially destroying them.

Chiene: A Membrano-Vesical Calculus. (*Edinburgh Med. Jour.*, June, 1884.)

A boy, five years of age, was sent to him, who gave the history of frequent urination. A sound was passed into the bladder, under chloroform, and a grating sensation felt as it passed through the membranous portion of the urethra; no stone could be felt in the bladder. A staff was inserted as far as the calculus and the membranous portion of the urethra opened. In the attempt to push the stone out, by one finger in the rectum, it went into the bladder; the incision was continued through the prostate into the bladder and the stone removed. The thicker portion of the stone was in the bladder, the other formed a mould of the urethra.

Owen: Strangulated Femoral Hernia; Operation; Recovery. (*Lancet*, June 14.)

A female child, not over ten years of age, was admitted to the hospital with a swelling in the right groin the size of a walnut. She was vomiting, lips and teeth covered with sordes, tongue furred, pulse 124, temperature subnormal. She had been sick 48 hours before admission. Herniotomy under chloroform was successfully performed, the child making a steady convalescence. Mr. Owen stated that "of 748 cases of femoral hernia in only a single instance was the patient under ten years of age." (Mr. Birkett's essay in Holmes' "System of Surgery.")

Dobbins: Strangulated Hernia. (*Lancet*, May 31.)

A boy, aged six months, from the time he was six weeks old had a reducible right-sided scrotal hernia. At the present time it had become irreducible, and he had been vomiting two days previously to having been seen. Taxis under chloroform having failed, herniotomy was successfully performed.

Haslam: Enchondromata of Upper Extremity. (*Birmingham Med. Review*, July, 1884.)

A boy, now thirteen years of age, when four years old, was noticed to have an enchondroma on the ring finger of the right hand. Now all the fingers have been attacked, and in addition there is a nodule at the lower end of ulna, the olecranon and the head of the radius is pushed forward by one near the capitellum. The forearm was about one and a half inches shorter than the left.

Chiene: Ovariotomy at Three Months of Age. (*Edinburgh Med. Jour.*, June.)

A child, three months old, was noticed to have a swelling in the inguinal region. Six days after the swelling had been noticed it was operated upon, and found to be the ovary and fallopian tube; both were removed. In sixteen days the child left the hospital, the wound having healed by first intention.

De Blois: A Case of Congenital Web of the Vocal Bands. (*N. Y. Med. Jour.*, June 14.)

The history of the case is as follows: Louisa T., aged twenty years, came to the Boston Dispensary in the summer of 1883 for throat treatment. Her voice was exceedingly weak, hoarse, and puerile, and, although generally well developed, she stated that it had always been so; that in infancy her shrill, peculiar cry had been often remarked. On examination of larynx a very dependent epiglottis was seen, which was raised with difficulty. When this, however, was accomplished, it was seen that the anterior half of each vocal band was spanned across by a white and almost transparent web, perfectly symmetrical in all its aspects. This membrane appeared to be elastic, and to expand and contract perfectly in unison with the motion of the vocal bands. After some weeks' education of the larynx, which was very intolerant of instruments, a pair of Mackenzie's forceps was introduced closed into the larynx, with a view to opening it subsequently when the web had been passed, and thus tearing it. After repeated failures, on one occasion the forceps was introduced fairly down into the trachea, and on opening it fully and withdrawing it, the web was split across, leaving a jagged, dentated edge on either band. On examination upon the following day, it was found that during the night the two halves of the ruptured web had apparently healed together. The voice, which immediately after the operation became low-pitched and hoarse, had resumed its former high key. The adhesions were broken up with a probe, and this treatment continued from time to time. In about a month her larynx was almost normal, except that the vocal bands appeared to be fused together at the anterior commissure. Her singing voice had gained three notes above and four below what she was able to sing before the operation.

Sympson: Scleroderma of Left Lower Extremity. (*Brit. Med. Jour.*, June 7.)

A feeble, ill-nourished girl was admitted to the hospital in August, 1882, on account of a distortion of the left foot. The limb was half an inch shorter than the other, and the foot bent at an angle of 30°, the tibialis anticus being rigidly contracted. She bore her weight on her heel. There was slight motion at the ankle-joint, but none at the knee. The skin on the inner and anterior aspect of the limb, from the groin to the dorsum of the foot, was pallid, glossy, and irregularly mottled with yellowish-brown spots. To the touch it was tense, resistant, and elastic. Sensibility unimpaired. Three years ago she had been kicked on the knee by another child, after which the joint became stiff. A few months afterwards she fell and bruised her knee. This was followed by hardening of the skin over the patella, which gradually extended to the thigh and leg. Family history good. She was placed upon the liquor arsenicalis, the limb was well rubbed, and later the tendon of the tibialis anticus was cut. Her general health improved, and the foot was held at an angle of 45°. She was discharged in January, 1883, but shortly re-admitted, the former treatment being continued, until the middle of May, when she was again discharged. At this date the leg was one and half inches shorter than the other. The tibia at its upper third was bent with a concavity forward. It had decreased in size, and the brown stain had become darker. Mr. S. thought she would probably get well, but with an atrophied and distorted leg. The microscopic changes in the skin in such cases consisted in an increase in the number of cells in the rete malpighi, enormous increase in the connective tissue, atrophy of the hair-bulbs, and subcutaneous fat.

Mohendra Nath Ohdedar: Absence of Rectum; Colotomy; Death. (*Indian Med. Gazette*, May, 1884.)

A male child, four days old, was brought to the Colvin Hospital, Allahabad, who had not had a movement of the bowels since birth. At the site of the anus the skin was dark and thrown into wrinkles, but there was no evidence of any opening. The child was in great agony, so that an operation was immediately begun for its relief, by cutting in the line of the situation of the rectum; when a depth of an inch and a half was reached, there was no evidence of any rectum, so the operation at this point was abandoned, and lumbar colotomy (left) was then performed. Everything went well until the third day, when the child died from inanition. After the operation the mother could not come to nurse it, on account of some caste reasons, so that it was fed on milk.

Keegan: Litholopaxy in Male Children. (*Indian Med. Gazette*, May, 1884.)

In the Indore Charitable Hospital there have been twenty-four litholopaxies in male children, with one death. The fatal case was one in which a woody-fibred stalk had penetrated the bladder through the rectum, which fact was not known until after death. The ages of the patients varied from eighteen months to eleven years. In the first six cases the stone was crushed and allowed to pass out with the urine; in the remaining cases it was evacuated. The lithotrite used corresponded to a No. 8 English catheter. It is necessary to slit the meatus very often in order to introduce the lithotrite. Both lithotrite and canulæ should be as short as possible, and all up and down and lateral movements should be avoided as far as possible. The smallest stone recorded weighed five grains, the largest four drams.

Bibliography.

Abstracts of some of the Medical and Surgical Cases Treated at the General Hospital for Sick Children, Pendlebury, Manchester, during the Year 1883. Third year of issue. J. E. CORNISH, 33 Piccadilly, Manchester, 1884. Price, two shillings.

This pamphlet of 142 pages is a most excellent synopsis of the work done in this hospital, showing the results obtained, the methods of treatment, the complications of the more common diseases, and the lesions found upon post-mortem examination. It is not a mere compilation of bare statistics, as most of the " Reports" of hospitals in this country (U. S.) are, but contains short histories of the more important cases. The book opens with a table, showing the medical cases treated during the year, the number that have been discharged or have died, together with the sex, and, what is very valuable, reference to the page where the cases (the more important ones) are taken up and explained. The medical cases are divided into Zymotic Diseases, General Diseases, Respiratory System, Circulatory System, Liver, Spleen, Glands, Genito-Urinary System, Nervous System, Skin.

As an example of the facts given and the value of this method, take under the head of Zymotic Diseases, Scarlet Fever. The table shows a total of 215 cases, 91 males and 89 females cured, and 21 males and 14 females died. The reference page (from which only a small extent of the informations given will be quoted) states that " of the 35 deaths (a mortality of 19.2 per cent.), the most rapidly fatal case was a girl, aged 11 years, who died in four days." The longest that survived, died on the fifty-second day of nephritis and gangrene of the lung." "The greatest number died on the sixth day." " The largest number of deaths occurred between the ages of 2 and 3, 4 and 5 years." " Post-scarlatinal nephritis (*i.e.*, tubular or parenchymatous), occurred in thirty-four cases." "Six cases were fatal." "In five, autopsies were made and the results succinctly stated." Lung complications: "The majority of the fatal cases were complicated with broncho- or pleuro-pneumonia." "The sloughing process in the throat appeared to extend along the bronchial tubes, sometimes to their smallest ramifications." "Pleurisy and pleuritic effusion have been common." Joint complications: "Seven cases had scarlatinal synovitis. Three cases were fatal." Cardiac lesions: "In not one of the fatal cases where autopsies were made was any endocarditis found." "In most fatal cases of this disease the edges of the mitral valve are nodular, apparently from irregular swelling of the connective tissue between the layers of the endocardium lining the valves, but there is no roughening or fibrinous deposit on the endocardium." "Treatment: Rest in bed until the twenty-first day; milk diet; their ablutions consist of sponging and washing with hot water. After twenty-first day, allowed to be up; beef-tea diet; bathed daily." "They were detained as a rule until the forty-second day." "Much stress is laid on the cleansing and application of antiseptics to the nose and throat; this is done by mopping, spraying, or syringing." "The antiseptics used were liquor sodæ chlorinatæ (1–12); emulsion sanitas oil (1–100)." "The antipyretic remedies used were quinine, salicylate of soda, and kairin. Quinine was found the most valuable. Kairin was disappointing on account of its temporary action." "Packing in wet sheets (30°–40° F.) has been resorted to for lowering the temperature, as well as sponging with ice-cold water." "The cold bath was not resorted to on account of the heart-depression it produced." "Nephritis was treated by purgatives, senna chiefly, in the early stage; later, hot packs or vapor baths; other drugs used were jaborandi, nitrate of pilocarpin, citrate of caffein, digitalis, and iron."

Then follows the histories, giving pulse, respiration, and temperature, symptoms, treatment, and autopsy (when made) of each case. Last, but not least, at the end of the book are the sequelæ to cases mentioned in the previous Reports, so that any important case can be observed until recovery or death. The surgical cases, of which there were but few, are treated in the same way.

The hospital contains 168 beds, of which only 140 were available, including twenty-eight for fever patients. During the year 1883, 1,110 new patients were admitted; total under treatment, 1,229; recovered or relieved, 956; unrelieved, 35; died, 117. The mortality is 10.5 per cent. The "abstract" is made out by the visiting physicians and surgeons, Drs. Ashby, Hutton, and Wright, assisted by the Internes.

J. V. V., Jr.

THE

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Original Communications.

TREATMENT OF PSEUDO-MEMBRANOUS LARYNGITIS.

BY F. E. WAXHAM, M.D.,

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Although many specifics have been claimed for this dreaded disease, it is undoubtedly true that we possess none. There are, however, a few plain indications that we should meet:

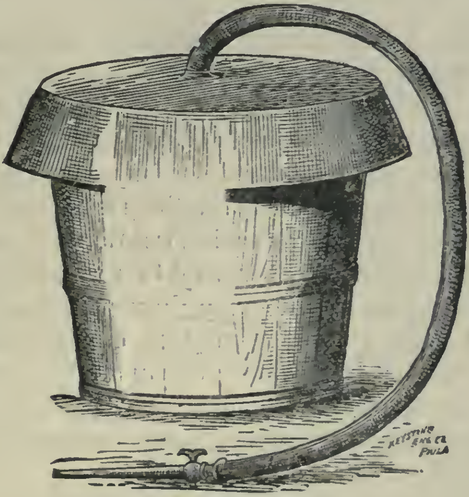
1. Prevent as far as possible the formation of false membrane in the larynx (Meigs and Pepper).
2. When it has formed, promote its dissolution and expulsion as rapidly as possible (Meigs and Pepper).
3. Control laryngeal spasm.
4. Support the patient in every possible manner.
5. Prevent complications.
6. In case of threatened suffocation not relieved by medication, open the trachea.

Accepting the theory that this disease is a local inflammation, and the membrane formed an exudate resulting from this plastic inflammation, it would be reasonable to suppose that so far as we are successful in controlling this inflammation, so far will we be successful in limiting the amount and extent of its product, the exudate. Hence, to meet the first indication we will resort to antiphlogistics. Among the remedies appropriate in this condition may be mentioned cold applications, emetics, veratrum viride, aconite or digitalis, and large doses of quinine. If the patient is seen early in the attack, cold applications to the throat by means of the ice-bag or rubber tubing undoubtedly exerts a modifying influence over the inflammatory process. In the beginning of the attack, a quick emetic and brisk cathartic are appropriate to blunt the onset of the disease, and by their relaxing effect also do some good. Let us control the febrile action by the use of large doses of quinia aud some cardiac sedative. If it is in the beginning of an attack, and the child is strong, veratrum is the remedy, in sufficient doses to control the heart's action. If the child is seen later in the attack, and especially if it is weak and the pulse feeble, digitalis should be preferred.

There is always more or less spasm of the laryngeal muscles, so that it is necessary to combine with these remedies some anti-spasmodic, and among the best are bromide of ammonium, stramonium, and warm fomentations to the throat and chest. Iodide of potassium serves a useful purpose by promoting elimination, and by many it is thought to have a tendency to retard the formation of false membranes.

To cause the dissolution and dislodgment of the false membrane we may make use of several remedies. Moisture in the form of warm steam or spray is an important aid. The frequent use of the atomizer, charged with a two per cent. solution of dilute phosphoric or lactic acid, I believe in many cases greatly aids in softening and disintegrating the membrane. For administering the vapor of lime I have had constructed a very simple arrangement, as seen from the accompanying cut.

This consists simply of a rubber tube attached to the bottom of a large tin pan. The tube terminates in an ordinary nozzle, by which the size of the stream of steam can be regulated. The lime is placed in a pail or bucket and the pan is placed over it. When the steam is exhausted another pail of lime can be brought in and the pan transferred to it. By this means the steam can be conducted directly to the mouth of the patient, and but little is wasted.



Emetics are among the most valuable means of dislodging the membrane, but their repeated use is not indicated until the membrane becomes softened or loosened by the natural process, or by the action of remedies applied for this purpose. Great care and judgment should be exercised in their use, lest we exhaust and debilitate our little patient thereby. They should not usually be repeated oftener than every two or three hours, unless there is great urgency, and should always be followed by stimulants and nourishment. In regard to emetics, I prefer alum and ipecac, as they are always safe and efficient. In two cases I have observed unpleasant symptoms from the use of turpeth mineral, which were controlled with difficulty. On both occasions, however, directions were not followed, and instead of repeating the dose every fifteen minutes until emesis occurred, two or three hours were allowed to intervene. Severe intestinal irritation resulted, which greatly aided in prostrating the little patients.

The patient should always be supported in every possible manner by the most nutritious food and by stimulants. Rectal alimentation should be resorted to if necessary. Complications will best be avoided by keeping the patient in a well-ventilated apartment, at an even temperature.

In regard to tracheotomy, evidence is conclusive that it is our duty to resort to it when there is danger of suffocation. The earlier the operation is performed, the greater the success. I do not believe that we should wait until the last moment, when, too frequently, the patient is beyond all help; but as soon as there is marked dyspnea, which is not relieved by emetics, we should at once operate. The argument may be raised that by operating early we will sometimes operate upon those who would recover without it. In answer, it may be emphatically stated that we will save, by operating early, more patients than if we do not operate at all; we will also save more patients than we will by relying upon treatment until the last moment.

To recapitulate: It has been my practice to use cold applications in the beginning of an attack; later, warm fomentations to throat and chest; a brisk emetic in the beginning, followed by a cathartic dose of calomel, large doses of quinine, and the following combination:

℞—Potass. iod., ʒss;
Ammon. brom., ʒj;
Tr. stramonii, gtt. xxxij;
Tr. veratrum viridi, gtt. vij. vel. digitalis, gtt. xxxij;
Syr. acaciæ, ad ℥ij.—M.

Sig.—Tea-spoonful every three hours to a child three years old.

If the cough is frequent and harassing, opium is added occasionally. As dyspnea becomes marked, an occasional emetic, and the constant use of lime-vapor, and the frequent use of a spray of lime-water and lactic acid, or dilute phosphoric acid, by means of the hand-atomizer. As illustrating the value of this line of treatment, allow me to briefly analyze sixteen cases, recently observed, and of which records were preserved. These were all well-marked cases of pseudo-membranous laryngitis. False membrane was observed upon the fauces in all but three cases. In these three patients, however, membrane was expelled in large quanties through the canula after tracheotomy. All were characterized by more or less dyspnea, and whispering voice; in many of the cases the voice was entirely suppressed. Several of these patients were not seen until symptoms of impending suffocation were already present.

Of these sixteen cases, seven (or 43¾ per cent.) recovered. Nine were operated upon, with two recoveries. Seven were not operated upon; of these, five recovered. Had tracheotomy been performed earlier, several others would undoubtedly have terminated more favorably, as all were in imminent danger of suffocation, and several of them moribund.

In regard to the presence of membrane in the larynx, the character of the voice has aways been my guide. As long as the voice remains clear, I regard the larynx free, and tracheotomy not indicated. When the voice becomes lost, or continually whispering, and dyspnea urgent, it is our plain duty, demonstrated by statistics, to at once perform tracheotomy.

In regard to the treatment of croup with bichloride of mercury, as recently advocated by Prof. Jacobi, I can only state that I have never used the remedy, but will, on the recommendation of this high anthority, make a trial of it, and compare results with previous treatment.

RÖTHELN-MEASLES.—ONE HUNDRED AND TEN CONSECUTIVE CASES WITH COMPLICATIONS AND RESULTS.

BY M. P. HATFIELD, M.D.

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During the winter of 1883–4 a mild epidemic of rötheln prevailed in the city of Chicago, but, so far as my personal knowledge goes, without fatal results. On March 30th Clara M., aged two years, was found in the asylum hospital, with a reddened throat, punctate rash, and slight fever. As scarlet fever was epidemic in the house it was at first diagnosed as such; and, indeed, in twenty-four hours the eruption assumed a scarlatinous blush that was most misleading. But, on the other hand, there had been no nausea, vomiting, high temperature, nor even loss of appetite. Conjunctivitis, coryza and bronchial catarrh, with hoarseness, were present, but all the symptoms were so light that the little girl was with difficulty kept in bed during the four days in which the eruption was present. On the fifth day she is noted as being up and dressed, and apparently all right, except that the bowels were inclined to looseness. As there was no desquamation or other complications she returned to the nursery on the 14th of April. April 27th the next case appeared, if possible lighter than the previous one. Nevertheless, it was quarantined, but without avail, for two new cases were met with on May 14th, and four additional ones on the 21st. As all of these cases were mild, and as the disease was regarded as having a "uniformly favorable prognosis," no further attempt was made towards isolation, but the epidemic allowed to run its natural course. This it did with increasing intensity, until it reached its height about June 2d, when our records show seventy children in bed, many seriously and some fatally ill. About this time (June 1st) the epidemic assumed a more malignant form and in many cases could not be distinguished from ordinary measles. In other cases the eruption so closely resembled scarlatina that a differentiation was exceedingly difficult, if not entirely impossible, save for the fact that these cases frequently occurred in the persons of those who had previously suffered from both measles and scarlet fever. Unfortunately the records of the asylum do not accurately show exactly how many there were of these, but in several cases it was certainly so, notably so in the case of the matron and nurses, who had suffered from morbilli and scarlatina in early life and had passed through several epidemics of both with impunity, and yet were attacked like the rest this time.

Possibly we had to do with an epidemic of measles conjoined to that of rötheln. This idea is in accordance with the severest cases and increased mortality observed after June 1st. It is further borne out by the fact that many of the children suffered from two distinct eruptive attacks of from three to fourteen days apart; but chiefly from the fact that the first child attacked was three months later found covered with a measly eruption, and finally succumbed to a capillary bronchitis following its wake. Hence the hyphen in our title which denotes either rötheln complicated with morbilli, or such an increased virulence of the rötheln microbe as to render its ravages not easily distinguishable from those of measles, and Keating's researches on the bacteria of malignant measles render the latter explanation at least plausible.

Contagiousness.—One hundred and ten of the one hundred and ninety-six inmates of the asylum suffered from an eruption during the progress of this epidemic; the younger the child the greater its liability, for none of those (thirty-two) in the nursery escaped, and but five of those from the second nursery (aet. four to eight years) escaped; the immunity being chiefly among the larger children, but, as seen in the cases of the matron and nurses, neither age nor previous exposure brought safety. In fact, after a diligent search, but three children could be found whom it was certain had never previously had measles, or rötheln and who escaped this epidemic. Out of the twenty children known to have been in the institution since the last epidemic of rötheln (Chicago *Medical Examiner,* August, 1881) about one-quarter were attacked, and two of these died from complications, of which more later.

Average duration in the first or simple cases was four days; in the severer cases the course of the disease was tedious and where serious complications existed, of course indefinite. From the circumstances of the case it was generally impossible to fix the duration of the time of incubation accurately. In two cases, however, it was quite definitely fixed at ten days. Complications before June 1st may be said to have been rarely present, after that they were exceptionally absent. In many of these latter cases the child had first a mild attack of rötheln, which was followed in from four to ten days with a more aggravated form of eruption and complications, such as are met with in the more serious epidemics of measles, *e. g. stomatitis,* which was perhaps our most frequent complication among the youngest children. It was of all varities, erythenatous, aphthous, ulcerative, and gangrenous, one of the latter being a true noma. This one, of course, had a fatal termination, and it would almost seem as if it would have been better if more of the severe cases of gangrene had had a similar termination, for in at least three of these cases there was so great a destruction of the soft and bony tissues that the child is left permanently disfigured. Two of these cases, when at their height, were removed from the asylum and passed into the hands of other physicians, who attributed the pitiable condition of these children to mercurial salivation. And it certainly did look like it from the profuse ptyalism, spongy gums, loose teeth, and horrible fetor, and yet not a particle of mercurial had been given to any one of them. In all of these cases convalescence has been exasperatingly slow, and at the time of writing one child is still suffering from sloughing in his almost toothless mouth.

Laryngitis was the next most frequent complication.

After June 1st it was present, in greater or less degree, in about sixty per cent. of all the cases. Five of these showed well marked fibrinous exudates, the remainder manifested more or less aphonia or hoarseness. Two of the cases of fibrinous laryngitis died with disheartening rapidity after the first appearance of hoarseness, and the autopsy in these cases showed so extensive an exudate that I am convinced that tracheotomy would have been of no value. The three remaining cases apparently escaped death by the use of heroic doses of mercuric bichloride. One of these, from its unusual duration and favorable termination, deserves passing notice. It was in the person of Myron T., aged five years, who was first noticed to be hoarse and drooping on the 22d of June, but it was not until the 28th that fibrinous patches were observed in his pharynx. The following day he was aphonic and remained in this state for nearly three weeks. During all this time there was a visible persistence of the fibrinous exudate in the pharynx, and presumably in the larynx as well, for he suffered repeatedly from paroxysms of dyspnea which threatened to cut his life short. Finally the patches disappeared from the throat, the voice reappeared, and to-day the boy apparently has as good a chance for long life as any other inmate of the asylum.

Capillary bronchitis, or broncho-pneumonia was the cause of six out of the nine deaths occurring during this epidemic, but none of the six were in good health previous to the attack. One was already dying of tuberculosis, two were scrofulous, and the remainder were suffering from chronic bronchitis. On the other hand, no child without previous lung lesion succumbed to this frequent complication of the latter part of our epidemic. *Other complications:* Diphtheria twice, convulsions once, urticaria once, rheumatism once, dysentery once, and decided diarrhea in four other cases, although looseness of the bowels was by no means infrequent. Ophthalmia and otitis, either or both, were present in about ten per cent. of our cases, generally in connection with some other complication. One poor unfortunate suffered from both of the above, as well as purpura, jaundice, diarrhea, septic pneumonia, and metastatic abscesses, and yet survives to tell the tale. If it is true, as Smith claims, that the eruption of rötheln is never vesicular, nor pustular, then this lad undoubtedly suffered from measles subsequent to rötheln, for the records of the asylum show that June 2d he was broken out with the rötheln rash, which faded, and was followed four days later by a multitude of pemphigoid vesicles [dermatitis vesiculosis?], whose contents were gradually absorbed or escaped, and left behind purpuric stains. Henoch reports a similar case in the *American Journal of Obstetrics*, October, 1883, but it had never been my fortune to meet with its like before, and our case was unlike Henoch's in that his promptly died, while our boy, after an obstinate fight with what Hillier would call pyogenic fever, has at last made a good recovery, though scarred and blotched with a multitude of metastatic abscesses.

Desquamation in this case, as might be expected, was fully as great as ever I have met with in severe scarlet fever, the cuticle coming off in caste from the fingers and toes, and in large scales elsewhere, as if the child had been scalded. The same thing happened with the child dying of noma. Both of these cases, I am absolutely sure, had previously had scarlatina, so there can be no doubt in regard to diagnosis. Desquamation was not observed in the earlier cases, but in the later ones, to the extent of slight branny exfoliations, it was the rule rather than the exception.

Nephritis, with scanty albuminous urine and more or less ascites, showed itself in two cases, which were, however, promptly relieved by the internal use of infusion of digitalis, assisted by vapor baths.

Treatment.—The writer does not lay claim to originality or any very extraordinary results. The milder cases were simply confined to bed and given an expectorant mixture, about as follows, as required for cough:

℞—Vini ipecac;
Syr. tolut., āā, ℥ss;
Liq. am. acetat., ℥iij;
Tinct. aconit., ʒss.
ʒj pro dosi.

If laryngeal symptoms made their appearance, the use of steam inhalations, by means of a Codman's atomizer, was employed about every two hours.

After the loss of the two cases from fibrinous laryngitis, as mentioned above, the bichloride treatment was adopted in all cases where a similar accident was feared. *Post hoc*, or *propter hoc*, as you may esteem it, we lost no more cases in that way, and with our past experience I should certainly try again, under similar circumstances, the hourly use of one-sixteenth grain of the bichloride, until constitutional disturbance appeared.

The treatment of the severer forms of stomatitis was very unsatisfactory. Chlorate of potash, hydrastis Canadensis, bismuth, iodoform, ninety-five per cent. carbolic acid, charcoal and tannin and permanganate of potash, were all tried in turn, and all with indifferent success. The removal of the child from the asylum gave better results in obstinate cases than all other treatment that could be devised. Where this was impossible, the thorough removal of necrosed tissue by the surgeon's knife, under an anesthetic, and the subsequent free use of diluted Labarraque's solution and Smith's sulphate of copper mixture, gave us the best results. Generous diet and alcoholics were freely used with advantage in these cases, and Murdock's liquid food served us a good turn in the case of pyemia previously mentioned.

Mortality.—Nine out of the one hundred and ten attacked, or a little above eight per cent—a most disheartening percentage if we accept as true Smith's dictum that rötheln is never fatal. The causes of death were as follows: Fibrinous laryngitis 2, noma 1, and capillary bronchitis 6; but of the entire nine none were in sound condition before the appearance of the epidemic. Three were of syphilitic parents, two were evidently scrofulous, one was already dying of tuberculosis, and the remainder were suffering from chronic bronchitis; so that it may truthfully be said that no child in previous good health died during the epidemic; and if we consider it a mixed epidemic of measles and rötheln, then the mortality is certainly rather under than above what might have been expected in a public institution.

Conclusions.—Finally, this epidemic seems to prove, to the writer at least:

1. Ordinary rötheln may become so intensified, or complicated with measles, as to be clinically inseparable, one from the other.
2. Previous attacks of measles do not bring exemption from this form of epidemic.
3. The prognosis is graver than with ordinary rötheln, and less so than in measles under the same circumstances.
4. These facts are theoretically explicable by the hypothesis of a bacterial infection, of increasing virulence, from overcrowding or other favoring causes.

Clinical Lectures.

HISTORY OF THE DISCOVERY OF VACCINATION.

BY WM. T. PLANT, M.D.

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GENTLEMEN.—The presence of some children in the dispensary to be vaccinated reminds me that I have said nothing to you as yet on that important subject. Before doing the operation I wish to tell you something about it. We will therefore give this hour to a consideration of this matter.

There is no more interesting chapter of medical history than that connected with the discovery of vaccination. For some hundreds of years small-pox had been almost the worst enemy of the race. In all climes and countries epidemics were frequent and the mortality was frightful. Few escaped it and something like a quarter of those attacked died. The fatality among children under five years of age was about fifty per cent. Society was largely made up of two classes, those who were pock-marked and those who were yet to become so. So devastating was its march that people fled before it in consternation, as before a river that had overleaped its barriers, or from a burning city. This fear has been transmitted to our own times. No other disease is so much dreaded though for more than three quarters of a century we have had the means of its almost complete control within easy reach.

Such was the state of things when about 1700 it began to be hinted in England that the people of some Eastern lands had a way of mitigating the severity of small-pox by purposely conveying it from person to person. The Chinese who have always had such queer ways of doing things were said to have a custom of sowing the disorder by putting small-pox crusts up the nostrils.

A little later than this (1716) Mr. Wortley Montagu, an Englishman, was appointed embassador to Constantinople. What he did at the Ottoman court no one now knows, but his wife, Lady Mary, wrote letters home of such "wit and wisdom" that they have given her lasting celebrity. In one of these she described in such sprightly terms the Turkish custom of "engrafting" small-pox and the benefits arising from it as to excite some public interest. After her return to England she agitated the subject and had her own daughter publicly inoculated after the Turkish method. This event occurred in 1721. Then followed the inoculation of six condemned criminals at Newgate. After this the operation was taken into royal favor and two children of the Princess of Wales received variolous infection by this method. All these persons had small-pox lightly and survived. In the same year inoculation was begun in Boston, but of 244 persons to whom small-pox was carried in this way, six died. About the same time there were in England two conspicuous examples of death from transplanted variola.

These deaths served to prevent inoculation from being received both here and in Great Britain with that instant favor which it might otherwise have had. It was not very much practiced before the middle of the century. In 1746 the Small-pox and Inoculation Hospital was founded in London in order that the poor as well as the rich might enjoy the benefits of the operation.

In Great Britain and America inoculation may be said to have had a reign of about fifty years—the latter half of the last century. People then made appointments with the small-pox physicians as we now do with dentists. During our war for independence the wife of General Washington improved the occasion of a brief sojourn in Philadelphia by undergoing inoculation, and she had, according to history, "a very favorable time."

The efficacy of this operation in mitigating the severity and danger of small-pox was certainly very great. The proportion of deaths after it was something like three in a thousand, a very great contrast to the mortality of the disease communicated in the usual way. But there was one fatal drawback. However light the engrafted disease might be, it was still small-pox; and the more it was conveyed in this way, the more were centres of infection multiplied, from which those not inoculated were liable to contract the disease in its worst forms. To individuals, inoculation was a great blessing; to society at large, a great curse. In the early part of the last century, before inoculation, one-fourteenth of the deaths in Great Britain were from small-pox; in the latter part, after inoculation became general, one-tenth of the deaths were from that disorder.

But during this last half of the last century the man was coming who was to bring forward and put in practice a method, not of mitigating, but of preventing variola. That man was Edward Jenner, the son of an English clergyman. He was born in 1749, at Berkeley, in the county of Gloucester—a county celebrated then as now for its dairies. Having early fixed upon medicine for a vocation, he joined himself to a surgeon in a neighboring village for instruction. About this time the confident assertion of a young country woman, that having had cow-pox she was proof against small-pox, made an impression on his mind that was lasting. In his twenty-first year he went to London, to finish his pupilage under the great John Hunter. After two years in the metropolis he went back to his native village of Berkeley and began practice. On renewing his acquaintance with the dairy people their belief in an antagonism between cow-pox and small-pox was again brought to his notice. He began to look into the matter. By degrees, as evidence accumulated, he came to the conclusion that there was "truth at the bottom of this well."

He then entered on a series of observations and experiments that extended over a quarter of a century. He soon found that the cows were subject to two sorts of eruption, and that but one of them was protective against small-pox, and that only at a particular stage in its development.

Jenner conceived that a disorder that could be conveyed from the cow to the human system by rare chance in milking, might be more surely communicated by methodical operation; that it might also be carried from person to person without losing its protective power, and that through this means the whole human race, being at length made secure against small-pox, that loathsome disease would be driven out of the world from sheer lack of living accommodations. After that manner we find Jenner talking to his friends in 1780.

But from the scarcity of cow-pox he was not yet able to bring these magnificent and inspiring thoughts to the touchstone of actual practice. Nine years later than this, we find him inoculating his own son with small-pox matter. It was not until May, 1796, more than a quarter of a century after his thoughts were first turned that way, that Jenner made his first vaccination. The subject was a lad of eight years named James Phipps. The youngster could hardly have dreamed that he was to become so famous from so little a thing in itself considered. Several weeks afterwards the boy was inoculated with small-pox matter, and, as Jenner had predicted, no result followed. Two more years elapsed before he was able to repeat the experiment, owing to the disappearance of cow-pox from the locality. Having at length made himself certain of his great discovery, he published a pamphlet about it, and sent it out to the profession. At first some incredulity was manifested, but it could not last, for the proofs were at hand and more were forthcoming. Within a year from the first public announcement of the discovery seventy of the most distinguished physicians of London signed a declaration of their entire confidence in it.

With so much impetus gained the spread of vaccination was marvelously rapid. In 1799 it began to be practiced in this country, and a year later in France. In 1803 the Court of Spain sent out an expedition for the purpose of carrying vaccination to all the Spanish possessions of the old and new world. It returned after three years, having made the circuit of the globe. Within six years after it was first given to the public the knowledge and practice of this beneficent operation had spread over all the world. All nations of all climes hailed its coming with demonstrations of joy and gladness. In Russia the Empress gave the first child vaccinated the name of Vaccinoff, and ordered it to be educated at the public expense.

In the universal thankfulness for this unparalleled blessing, he through whom, under Providence, it had been secured was not forgotten. Honors were conferred on Jenner by foreign courts, and he was made an honorary member of no end of learned societies. The anniversary of his birth and that of the vaccination of James Phipps were for many years celebrated in Germany as feast days.

In 1802 Parliament voted him fifty thousand dollars, though—and we wish that historical accuracy did not require us to say it—Jenner had to make application and personal effort for it. But five years later it voted him a hundred thousand more.

With that modesty that ever characterizes true greatness, Jenner continued his residence among his life-long friends in and around the little village of Berkeley. He did, it is true, soon after he became famous, try London practice for a time, but he soon tired of it and returned to his more congenial country home. Here he passed the evening of his life in the practice of his profession, in correspondence relating to his great discovery, and in the peaceful enjoyment of the society of his friends.

He died of apoplexy in 1823, and his remains were laid away in the parish church. I do not know that any other man has ever lived to see the world so abundantly blessed through his labors.

So much for the history of vaccination. The hour has so nearly expired that we must defer the consideration of the more practical part of the subject to another time.

Clinical Memoranda.

A CASE OF CONGENITAL HYPERTROPHY OF THE LEFT FOOT WITH ASSOCIATED LIPOMA*

BY A. D. BLACKADER, M.D., M.R.C.S., ENG.

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In bringing this case before the notice of the association I am aware, to use the words of Curling when presenting a similar case before the Medico-chirurgical Society of London, that such facts as these do not offer the same interest as do others more frequently met with, and perhaps more practical; still they should be deemed worthy of record, and may become of much interest to the physiologist. Since Curling first recorded his cases, and he was one of the earlier ones in England to do so, other cases have been recorded, and several writers have called attention to the many curious facts in connection with them. One of the latest is Mr. William Anderson, who has reported a case in St. Thomas Hospital Reports for 1882, and along with his case has given a most excellent resumé of what is known on the subject. To his paper I am indebted for much which I now lay before you.

Among the earlier cases described was one by v. Klein, of hypertrophy of the right hand of a boy, in which the four fingers were enlarged and associated with fatty tumors. Wagner about the same time mentions the case of a girl of sixteen years in whom the second toe of the left foot was much hypertrophied and the plantar surface of the foot covered with a thick layer of fat. Reid followed in England, and then Curling; and since then numerous contributions have been made in Germany, England, and America. Of a few of the more interesting cases I present you herewith sketches and short notices.

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* Read before the Canada Medical Association.

Anderson defines the condition as follows: A gigantic growth, probably congenital in origin, of various segments of the body, exclusive of the viscera. It is almost invariably unilateral, and is generally limited to one extremity or portion of an extremity. It tends to implicate especially the bony, ligamentous and integumentary tissues, and is frequently associated with lipomata and with angiectases, and angiomata in connection with the circulatory and lymphatic system. It does not, as a rule, impair to any important extent the functional capacity of the part.

With regard to the term "congenital" he says, "although there is little doubt that the abnormality has its origin in fœtal life, as yet direct evidence of its existence at birth has seldom been adduced. In only three cases, Owen, Higginbottom, and Friedberg, has it been averred that the deformity was seen immediately after birth of the child. In one case an operation seems to have been the exciting cause.

To the term "hypertrophy" Anderson also objects, stating that although in a few cases the general characters of true hypertrophies are present, in most their histological character and associations should delegate them to a lower pathological status than that occupied by the true hypertrophies.

Of the etiology little is known. It does not appear to be hereditary. There was certainly no such history in my own cases for several generations back. Mental impressions on the mother during gestation are quoted. In Anderson's case the mother referred the deformity to the fact that she had been trodden on by a cow while carrying the child. In my own case the mother is firm in the belief that the whole trouble is owing to a somewhat prolonged fright about the tenth week of her pregnancy. She was out driving with her family in an open wagon, with her left foot, for want of room, hanging outside. The road was narrow, and a carelessly driven heavy cart came up from behind and was driven alongside them for some distance. She said she expected every moment her foot would be crushed. While these impressions may be mere coincidences, until we can prove them so, it were better that facts of this kind should be noted.

The extent of the part hypertrophied varies from a single digit to the entire half of the body. The hypertrophy always increases towards the distal end, thus the phalanges will be more hypertrophied than the metatarsal or -carpal bones, and they more in proportion than the bones of the fore-arm or leg. The hypertrophy, however, seldom includes the whole of the digits. The localization of the affection does not appear to be related to any special vascular or nervous territories. Its course is generally progressive; sometimes, for a time, the growth appears uniform with the rest of the body, but generally sooner or later the hypertrophy becomes more marked, and its nutrition evidently excessive. The rate of increase may vary from time to time; periods of slow development, or even apparent arrest, may be followed by new and rapid growth. In most cases the process does not extend beyond the seat of the original hypertrophy, but in a few we notice extension towards the trunk. As a rule, the growth goes on without pain, inflammation, or much interference with function.

As to the classification of these cases, Anderson sets aside as unsatisfactory, and I think justly, that of v. Fischer, which is founded in great part on the extent of the hypertrophy, and prefers the division into true and false. The first class forms a very small one, yet there are a few cases sufficiently well-marked where all the structures of one side are hypertrophied, the vascular supply on that side enlarged, the temperature elevated, and the power of the limb increased. Into the other division is placed all those where the size of the part is augmented by an unequally distributed hyperplasia of the skeleton and soft parts. This forms by far the larger division. In these the arterial supply is proportionate only to the normal size of the part, and the functional capacity is somewhat deteriorated. These cases for practical purposes he divides into two groups:

1. No deformity—parts being symmetrical.
2. Deformity. Arising from
    - *a.* Excess of adipose tissue or vascular tissues.
    - *b.* Articular distortion.
    - *c.* Associated defects of development, *e.g.* syndactyly.

With regard to the several tissues of the hypertrophied part we notice that the bones are always enlarged, but principally in their extremities. The cartilages and ligaments of the joints and the tendons, are usually thickened. The muscles, themselves, the arteries, and the nerves are seldom increased in size.

The pathology, like the etiology, is very obscure. Friedberg suggested some affections of the vaso-motor nerves, or some impediment in the circulation of a lymph vessel during intra-uterine life. A primitive vice of the middle lamina of the blastodermic membrane is opposed by the fact that the walls of the trunk, which are directly formed from the middle lamina, are comparatively seldom implicated. The theory of partial intra-uterine strangulation fails to explain cases where half the body is effected. We were surprised that Mr. Anderson makes no reference to the writings of Dr. S. C. Busey, of Washington, who has carefully studied these growths in connection with a case of congenital lymph-angiectasis, which came under his observation. In a most exhaustive article published some years ago in the *American Journal of Obstetrics* he thus sums up: These considerations lead me to the conclusion that the lipomatous and fibromatous degenerations exhibited in the foregoing cases of giant growth are the pathological results of a stagnation of lymph. This stasis may be occasioned by conditions which affect the lymph channels, or which primarily involve the circulatory apparatus causing excessive transudation of blood-serum, or both systems may be concerned either proximately or remotely. In the lipomatous form of degeneration the altered nutrition is due principally to some defect of the lymph apparatus producing lymph stasis, while connective tissue hyperplasia is due to augmented venous supply.

And again, it cannot, however, be denied that inflammatory processes, either erpsipelatous or elephantoid, do constitute the beginning of many of the cases of hypertrophic development, which are characterized by all the phenomena which I have ascribed to occlusion and dilatation of lymph channels, and consequent stasis of lymph. But this fact does not antagonize my view, for it is admitted that such changes as result from the inflammatory processes necessarily cause lymph-angiectasis, and the argument relates to the effects, not the causes of the stasis of lymph. I have previously referred to the suggestion that the congenital cases of ectasia, stenosis, and obliteration of lymph channels, may have been caused by inflammatory conditions taking place during intra-uterine life, and am willing to accept this hypothesis as a probable explanation, but the numerous cases of congenital defect of formation of portions of the lymphatic system, accompanied by hypertrophic enlargements, will not admit of its universal application. The one essential condition is interruption to the current and detention of the lymph, it matters not whether it be caused by devastated glands, absence of valves, absence of anastomotic connection between the superficial and deep-seated system of vessels, or other congenital or acquired conditions.

The following is the history of my case:

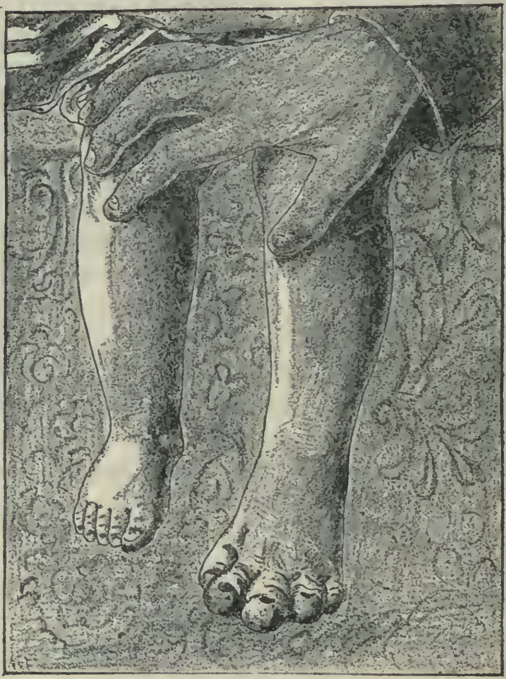
In March of last year, Mrs. W., aged thirty-four years, was confined by me of her fourth child. The confinement was in every respect a normal one, and her recovery good. The child was a strong, healthy one, of more than average weight, well-formed in every respect excepting the peculiar formation of the left foot, which was noticed the night of the birth, and more carefully examined the following morning. The following are my notes about that time: Both legs and thighs apparently the same, and well developed; no distinguishable difference in size, firmness nor appearance; no marks on skin; posterior half of foot scarcely if at all enlarged, but anterior half enlarged in all its diameters, and presents on its plantar surface a large, firm, yet somewhat elastic tumor of smooth, rounded surface, extending whole breadth of foot, and from middle of foot to root of toes; the second and third toes are webbed, much larger than the great toe, and project a full half inch beyond it; the fourth and fifth toes are both enlarged, but to a much less extent; the skin is perfectly normal in appearance; the movement of the toes is considerably interfered with, apparently by the tumor; there is no perceptible tenderness over the enlargement, and no increase of temperature above its fellow.

Dr. Roddick was called in consultation, and it was decided that there should be no immediate interference.

About six months afterwards, the mother again brought the child to me, saying that the foot was rapidly increasing in size—growing, she thought, faster than the other. I now determined on using continuous pressure by means of a Martin's bandage, and obtained one 2½ inches broad; had numerous holes punched in it, and then slit it up lengthwise through the middle for about two yards, that I might apply it more evenly. Very gentle pressure was made, but after a few night's use of it the mother got discouraged, as it caused the child much irritation, and has made it very restless and wakeful.

After this I did not see it again until the beginning of the year, when I again saw it, and as Dr. Roddick was out of town, called in Dr. Fenwick in consultation. He strongly advised me to persevere with the pressure for the present. This was now with great care kept almost constantly applied for nearly two months. Twice a day the skin was sponged with spirits of wine, well dusted with starch powder, and the bandage reapplied. Till I was confident that they could apply it well I called every day, and either applied it myself or saw it done. The results were not very encouraging to the mother, although I convinced myself it had some slight effect in retarding the growth, as the measurements, which were very carefully taken, will show.

An operation was now decided on. The child was about fourteen months old and in perfect health. To secure a good room, quietness and skilled nursing, it was taken to a private hospital, where, with the assistance of Dr. James Bell, and myself, Dr. Roddick performed the operation. Just before the operation, while the child was under ether, the following notes and measurements were taken: Heel enlarged; about centre of plantar surface a tumor-like mass, extending to base of big and little toe, and forward to terminal phalanx of second and third toes, which latter are webbed and much hypertrophied, and project beyond the large toe three-quarters of an inch, as if carried forward; third toe also much enlarged, but considerably shorter than the two previous; great toe scarcely at all enlarged, but small toe two or three times the size of opposite; the dorsum of the foot also considerably thickened; no apparent enlargement of either the



CONGENITAL HYPERTROPHY.

posterior tibial or anterior dorsal arteries; no alteration of the skin over the whole leg noticeable, and no apparent alteration in the lymphatic or venous system; no nevus to be seen on any part of the body.

The operation was commenced by an incision commencing on the under surface at junction of great and second toes, and extending backwards to centre of foot at posterior edge of tumor, where it was joined by another similar incision from the junction of third and fourth toes; similar incisions were made on the dorsal surface, and the whole of the second and third toes, with anterior two-thirds of the metatarsal bones, were removed. Finding that the third metatarsal bone was also hypertrophied, that toe, with the anterior portion of its metatarsal bone, was removed, and as much of the tumor-tissue, which was now seen to be a diffuse lipoma, was removed, and the edges brought together. The whole operation was done under strict antiseptic precautions. The temperature never rose over 99½°, the parts seemed to unite by first intention, there was scarcely any discharge, and by the tenth day most of the stitches were taken out.

After the operation I asked Dr. Wilkins, as a pathologist, to examine the tumor, which he pronounced to be principally fatty, but to contain numerous bands of fibrous tissue. Dr. William Sutherland, Assistant Demonstrator of Anatomy in McGill University, kindly examined the amputated toes, and reported: Phalanges enlarged but principally at their articular extremities, which were much increased in size; cartilages apparently thickened; tendons hypertrophied at their insertion.

As to the full results from this operation, a much longer time must be allowed to elapse before we can make any assertions. It will be sufficient for the present to say that the child can now walk well. A slight tendency to talipes varus is developing; but we think that can be easily overcome; and the foot, though still somewhat larger than its fellow, can be accommodated in a shoe of ordinary size, and thus presents no deformity:

MEASUREMENTS.

	Normal foot.		*Hypertrophied foot.*	
	January.	May.	January.	May.
Length (inches)	4	4⅜	5¾	6¼
Circumference around ball of foot	4¾	5	7⅛	7⅛
Circumf. around heel and ankle	6	6⅛	6½	6¾
Circumference around calf	7	7⅛	7¼	7¼
Circumference around thigh	9	9¼	9¼	9¼

STRABISMUS CONVERGENS UNACCOMPANIED BY PARALYSIS OF ACCOMMODATION AS A SEQUELA OF DIPHTHERIA.

BY SAMUEL S. ADAMS, A.M., M.D.,

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The sequelæ of diphtheria are so numerous that one hesitates to report a case lest he tire his readers with a subject upon which volumes have already been written. Nevertheless, after a careful examination of all accessible reports of cases, the writer believes the following to be an unique one, and has therefore ventured to present it to the profession.

I find numerous cases of paralysis of accommodation reported, but none of paralysis of the recti muscles of the eye. In this case there was no paresis, although both eyes were turned in to an extreme degree. Laudolt (Article 'Strasbisme' in the *Dict. Encyc. Des. Sci. Med.*), says: "The external ocular muscles seem to enjoy a certain immunity from this trouble (paralysis). It is only rarely that we see strabismus develop after diphtheria, and it is only then, as Eulenberg and De Gräffe remark, a latent strabismus of a hypermetrope becoming manifest in consequence of a diphtheritic paralysis of accommodation."

In the August number of the *American Journal of Obstetrics,* I reported a case of sudden death in diphtheria. Six months after that child died a cousin was taken with the same disease, while living in the same house, which seems to me to show the tenacity of the poison and to demonstrate the unsanitary condition of the premises. If the following history of the case with my deductions prove interesting, the labor spent in the preparation of this paper will not be thrown away.

On the 12th of June, 1884, I was called to see Fred. R., a sprightly and healthy boy of two years and a half, well developed and of light complexion. He had been peevish and fretful, but did not seem to be ailing at my visit. The history given me pointed to some digestive disturbance, so I prescribed a cathartic and told his parents that he would probably be all right after that acted. However, the next night his father came for me, saying that his child had a "raging fever" and sore throat, and seemed to be ill. I visited the patient and found him with a temperature of 102°, a rapid pulse and respiration, a hot and dry skin, and small white patches on the tonsils and uvula. I have seen so many cases of follicular tonsillitis that I have become cautious in making a too hasty diagnosis of diphtheria; so in this case I reserved my opinion. As a febrifuge I ordered sodium salicylate grs. x.

June 14th, 10 A.M.—Pulse, 138; respiration, 28; temperature, 100.2.

The patient had slept very well, but had had twitchings; was perspiring freely; had pain on swallowing, and slight enlargements behind angles of inferior maxillæ. His respiration was clear, voice thick, expression tired, and tongue thickly coated. Both tonsils were covered with the diphtheritic deposit, extending over the arches and invading the base of the uvula.

2 P.M.—Pulse, 148; respiration, 27; temperature, 102.6°.

He had all the symptoms usually attending a high fever. I determined to try the effect of the spray of lactic acid upon the membrane, and so ordered a solution of the acid and water, one to four, to be used with the hand atomizer every three hours. This was to be followed by a spray of the bichloride of mercury, one to two thousand, every three hours.

6 P.M.—Pulse, 136; respiration, 35; temperature, 101.2°.

Owing to the irregularity and intermittence of the pulse he was ordered a tea-spoonful of whisky every four hours. After the spraying with the lactic acid he coughed and spat up large pieces of membrane.

June 15, 10 A.M.—pulse, 125; respiration, 28; temperature, 99.8°.

Patient had rested well during the night; his skin was now moist and comfortable; the enlarged cervical glands had slightly diminished; right tonsil covered with membrane, left half clean. Same treatment.

8 P.M.—Pulse, 127; respiration, 28; temperature, 99.4°.

He had played with his toys during the afternoon, and slept quietly; had passed plenty of urine; his skin was moist and cool; respiration regular and easy; there was slight wheezing, probably due to the membrane extending up into the nose, there was no bronchitis; the membrane had perceptibly diminished; his general condition was better, and he had taken sufficient liquid nourishment.

The patient improved rapidly under the treatment, and on the evening of June 18th there was no membrane to be seen, and his temperature was 100°. He rapidly improved from this time to the 23d, when I pronounced him cured, without any evidences of sequelæ. However, I had taken the precaution to tell his parents that paralysis might occur at any time and to be on the lookout for it.

I have introduced the clinical notes of the case not as having any bearing on the subsequent history, but to illustrate the beneficial effects of the treatment. I am fully alive to the fact that one is not justifiable in pronouncing on the value of any drug based upon a single observation, but the good results obtained by me, together with the successful cases reported by others, leads me to recommend a trial of the treatment pursued. Of course, the younger the child the less favorable the prognosis in diphtheria. The onset of the disease in my patient was so unfavorable that I looked upon the nervous irritation with grave apprehensions, and at once resorted to the most energetic treatment.

By reference to the foregoing notes it will be seen that the patient coughed up pieces of the membrane after the first application of the lactic acid spray, and continued to do so until the end of the fifth day, when there were only the marks of a pre-existing membrane. It will be observed also that the diphtheritic deposit did not reappear when cast off by the action of the acid, as it usually does under other treatment.

To appreciate the value of the spray of the bichloride of mercury, one need but recall his cases where the antipyretics had but little effect—and that not permanent—upon the course of the fever, and compare them with mine, where no antipyretics were given, and where the temperature at noon on the fourteenth day of June, when the bichloride was begun, was 102.6°, and see that it fell to 101.2° after two sprayings, and never rose again above 100° throughout the course of the disease. The application of this spray seemed to be grateful and soothing to the patient, for though fretful and restless before, after its application he would become composed and fall asleep.

About two weeks after my visits ceased the mother called my attention to an indistinctness of speech, and was again warned about paralysis of the palatal muscles, and the probable difficulty the child would soon experience in swallowing. The child's condition was fair, but after learning of this impairment, I ordered one grain of the citrate of iron, quinia and strychnia three times a day. He seemed to be rapidly gaining strength when, about the tenth of July, my attention was again called to him on account of liquids running out of his nose on attempting to swallow. I again warned the parents to be careful about his diet, and to give him as little solid food as possible. They were also instructed that if, at any time, he should choke, they were to catch him by the feet, and, with head swinging downward, jolt him and compress the thorax.

Just five days subsequently I received an urgent message to visit the patient, that he was choking to death. I telephoned Dr. Harris, the Resident Physician of the

Children's Hospital, to go at once, and that I would drive out as quickly as possible. The doctor found that the parents had followed my directions about turning him upside down, and had succeeded in dislodging a large piece of Irish potato; but the child was cyanosed and semi-conscious, and he was compelled to administer aqua ammonia by inhalation. By the time I reached the house he was out of danger, but I predicted pneumonia, which was quickly developed.

Prior to this attack of choking the axes of the eyes were perfectly parallel. Just after full consciousness was restored, and while sitting in his mother's lap, he said there were two thimbles on the sewing-machine—there being but one—a proof of double vision. Just then the mother observed that both eyes were turned in to an extreme degree. She naturally became alarmed at this sudden and unsightly complication; but I assured her that as his general health improved I was confident the eyes would come all right. There was no paralysis of the external rectus of either eye, as by frequent tests he moved the globes from right to left without any difficulty; nor did any of the ocular muscles seem to be disturbed; neither was there any paralysis of accommodation, for the pupils were normal and responded actively to light.

I was fully convinced that this condition was directly due to the diphtheritic poison; but to satisfy myself I invited Dr. Swan M. Burnett, one of our leading ophthalmologists, to see the patient. He kindly visited him with me, and found the condition as described above. He expressed the opinion that there was no paralysis or paresis of the external, ocular muscles; that it was a case of concomitant, convergent strabismus, which he did not consider as directly due to the poison, but to the general debility following the disease, and that the same condition might probably have followed any exhausting disease. He thought it not improbable that the axes would again become parallel, but was inclined to believe the squint would be permanent and could only be remedied by strabotomy. I tacitly dissented from this opinion, but having the utmost confidence in his ability as a specialist, and realizing his vast experience in diseases of the eye, I yielded and gave up the idea of reporting the case. In spite of his decision the doctor thought the case unique and interesting, and expressed a desire to see it later.

My principal reason for disagreeing with Dr. Burnett was the sudden onset of the squint after the paroxysm of choking. Had the squint been gradual, keeping pace with the paralysis of the pharyngeal muscles, it might not have impressed me so forcibly; but the fact of its suddenness impressed me with the idea that his view was not correct, and that the case was in fact a peculiar and unique one.

A few days after our visit my attention was called to the little fellow, and to my surprise and delight I found the axes again parallel. His parents informed me that they did not know when the condition changed, and that from the time they first noticed the restoration the eyes had remained normal. Since that time I have seen a gradual improvement in his general health at my daily visits, and have noticed a steady departure of the paralytic features of the muscles of speech and deglutition; but I have failed to detect the slightest deviation of the ocular axes from their normal parallelism.

This unexpected change for the better was no less surprising than gratifying, and induced me to adhere all the more strongly to my former opinion that this strange action of the ocular muscles was undoubtedly directly the consequence of the diphtheritic poison circulating in the blood.

This condition of affairs must have been due to the partial or complete impairment of the superior, oblique and external rectus, which rotate the ball outward, or else it was the result of a tonic contraction of the rectus internus, rotating the ball inward. I am led to exclude any impairment of the external rotators, such as a lack of tonicity resulting in a loss of equilibrium, as suggested by Dr. Burnett, because their action was, so far as could be judged, normal when the tests were made—the eyes following the object to extreme abduction without any apparent effort.

"In ordinary concomitant strabismus there is no paresis of the external muscles, but, as in this case, the equilibrium of muscular forces is destroyed."*

I, therefore, adopt the second theory, and attribute it to a spasm or over-action of the internal rectus.

The two sets of muscles are governed by nerves having different cerebral origins, so we can plainly see how the centre of ocular abduction could be paralyzed or irritated while the centre of adduction remained quiescent, or *vice versa.*

It is a fact that an irritation of a motor nerve-centre will produce tonic or clonic convulsions in the muscles receiving their nervous impulse from such centre, and that these movements keep up only so long as the irritant is applied, unless it be too long or too forcibly applied, when paralysis may ensue. But it is also an indisputable fact that compression of a motor nerve-centre produces paralysis of the group of muscles over which it presides.

If the blood of the diphtheritic patient contains myriads of micrococci, as is believed by many, then it is reasonable to conclude that the constant circulation of these foreign bodies produce an irritating effect, slight or intense in proportion to their number and vitality. It may be that these migrating germs have a tendency to form communities, and lodge at some special centre. Under this hypothesis a number lodged at the centre of ocular adduction sufficient to produce an irritation, though not sufficient to cause paralysis.

I am convinced that the specific poison, whatever it be, was the cause of the convergence; that when the paroxysm of choking took place there was cerebral congestion, as evidenced by the cyanosis; that a quantity sufficient to irritate the internal rectus centre lodged near it, and that the squint existed until undue exertion or improvement in the force of the circulation dislodged it, thus permitting the relaxation of the muscular contraction and the prompt return of the axes to their former parallelism.

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* Dr. Burnett.

After I had completed my paper my friend, Dr. T. C. Smith of this city, mentioned two cases of strabismus following diphtheria which had occurred in his practice several years ago, and at my request kindly furnish the following notes:

CASE I.—"Girl five years old. Mild attack of diphtheria running its course in a week. About one month afterwards my attention was called to the fact that the child was dragging its foot in walking and that fluids, when swallowed, returned through the nose. These symptoms were succeeded by change of voice to such an extent that her articulation appeared like the barking of a dog, and it was with difficulty that she could be understood by those in the house with her. Strabismus appeared in one eye, and this, with the other paralytic disturbances, gave the child a very repulsive appearance. Under nux vomica treatment the patient entirely recovered in about three months."

CASE II.—Boy seven years of age. Was taken sick in the latter part of July, 1884, and was seen, in my absence from the city, by Dr. Joseph T. Howard. On the 1st of August I found the tonsils and pharynx covered by membrane, but all the acute symptoms of the disease had disappeared in the course of a few days. About three weeks ago (September 1st) the father informed me that whenever his son tried to swallow fluids they were returned through the nose. His speech, also, became very much altered and, at times, could with difficulty be understood. Shortly afterwards he began to close one eye when looking at objects, or put the hand over it, and when questioned for a reason said when he looked at a person in the street he saw two. On examination I failed to perceive any strabismus which, if present, was probably intermittent, not constant. The diplopia had commenced suddenly. Nux vomica was given in doses of six drops of the tincture three times daily, and about a week ago I ordered syrup of the hypophosphites, under which he is improving. In the first case there was no diplopia."

As Dr. Smith did not test the eyes of his first case it is impossible to tell the nature of the strabismus. It may have been due to paralysis of the external rectus or contraction of the internal rectus; indeed, it may have been the result of paralysis of accommodation, the condition usually found when the eye is affected in diphtheria. In his second case the diplopia seems to have been the only prominent symptom, but in this case also the failure to examine the eyes systematically leaves us in doubt as to the cause of the double vision.

Dr. Smith, like many others, thought these two cases of little consequence, and not until my paper was read did he know that, so far as literature furnishes, strabismus is rare.

No doubt others may be able to recall cases similar to mine, which shows the importance of publishing cases in which unusual complications occur.

Current Literature.

1. HYGIENE AND THERAPEUTICS.

Zinnis: Prophylactic Measures Against Diseases of the Respiratory Tract in Children. (*Archiv. f. Kinderh.*, B. V., H. 9 and 10.)

The author of this paper, who is the director of a hospital for new-born children at Athens, finds that the greatest mortality among children under his charge is caused by diseases of the intestinal tract, and next on the list come those of the respiratory. He considers that the cause is two-fold, the first having reference to the climate and the second to faulty hygienic conditions by which the children were surrounded when with their parents. A series of rules which he published containing "advice to mothers" has the following directions: 1. During cold and damp weather children should not be taken out of doors; they should be suitably clothed, and should wear woolen shirts. 2. When in the house they should not be exposed to draughts of air. 3. The underclothes should be frequently changed. Under the author's observation, the systematic use of woolen shirts among hospital children has effected a decided diminution of the mortality from diseases of the respiratory tract. He is not in favor of cold baths before the sixth year. Other vigorous hygienic measures involving a certain degree of exposure should be deferred even to a later period.

Van Bibber: The Rational Treatment of Chorea. (*Amer. Jour. of Neurology and Psychiatry*, May.)

Six years ago Dr. Van B. read a paper before the Medical and Chirurgical Faculty of Maryland upon a treatment of chorea. From that time it has been unnoticed either adversely or favorably. Having seen eighty-six cases of this disease within a year and the treatment then suggested having been successfully carried out, including many cases which were becoming worse under the usual remedies. The treatment consists in putting the patient to bed, putting the muscles in the best position for rest and avoidance of those sources of irritation which would cause them to contract and produce that condition which it is desired to cure. Massage is to be thoroughly used three times a day. Massage will quiet the restlessness, which comes on in the afternoon, sooner and more permanently than any other means. All unnecessary talking is to be avoided. Diet to be nourishing and abundant. The usual remedies can be given in addition, the patient being in the best possible condition to be favorably affected by them. The confinement to bed seldom extends over a month. [This method should certainly be tried thoroughly.]

Chapois: The Resolving Action of Calomel in very Minute Doses in the Treatment of Pneumonia. (*Bull. Gén. de Thérap.*, July 30, 1884.

The value of this means was suggested to the author by his experience with a case of pneumonia in a child twelve years of age, in which blisters, leeching, and other means of treatment had been unavailing. The eighteenth day of the disease had been reached and still resolution had not begun, nor had the fever abated. It then occurred to him to try the administration of calomel, in doses of two milligrams, every hour. Twenty-four hours later the patient was revisited, and was found to have a moist skin and a pulse of eighty per minute. The tongue was also moist and a sub-crepitant *râle redux* could be heard over the affected lung. Recovery followed without interruption. The same treatment was subsequently used by the author in many cases of pneumonia, at all ages, with complete satisfaction. The phenomena which usually follow the use of this agent for twenty-four to forty-eight hours are the following: Moisture of the skin, then of the tongue and the mouth; next a diminution of body heat, and of the sense of oppression. After fifteen or twenty doses have been taken there may be a fluid evacuation of the bowels. The author does not claim that calomel is a specific for pneumonia, and in some cases other remedies will answer equally well. The advantage of the very small doses is that a different end is sought from that which is manifest when purgative doses of calomel are given, the effect of the latter being to prostrate the individual already greatly weakened. Given in such small doses absorption is favored, the salivary glands, the liver, the intestinal, and other mucous glands, also the glands of the skin, are stimulated, in a word, there is a general derivative action.

Tenneson: Treatment of Variola with a Combination of Ether and Opium. (*Bull. Gén. de Thérap.*, July 30, 1884.)

The author's experience with this method of treatment (the method of Dneastel) comprised eighteen cases which were under his observation as physician to the *Hôpital Saint-Antoine.* Seven of these were cases of *discrete variola,* and in all of them recovery occurred without suppuration and without mishap. The remaining eleven were of the confluent variety. In five cases either the opium alone or the ether alone was used, the result not being satisfactory. It was found that the treatment varied both as to rapidity of effect and as to final success with the individual. In the most favorable cases the eruption did not progress beyond the papular stage, excepting that a small pustule would sometimes develop upon the top of the papules, which would dry away in two or three days. The papules remained for several weeks after the cessation of the fever, the skin presenting a condition which resembled elephantiasis, but which always disappeared. In other cases there was pustular formation without swelling of the skin, and then a hardened, horny condition, of a coffee color. In yet other cases, the regions in which the eruption was abundant became uniformly swollen, the pustules were covered with a small moist scab, and in two or three days the swelling would disappear, and the scabs become dry. The treatment consisted in the hypodermic injection, morning and evening, of seventy-two centigrams, by weight, of officinal ether, and the administration of fifteen to twenty centigrams of extract of opium. [The cases narrated were those of adults, for children, of course, the treatment would require modification.] The opium was given in pill form, in doses of ten centigrams usually, morning and evening. For nourishment milk and soups were given with small doses of wine or brandy. On the whole, the author thinks this method of treatment satisfactory, and confesses that he is unable to explain the mechanism by which the useful result, that is, the prevention of suppuration, is obtained.

Makuna: Summer Diarrhea and the Meteorological Influences Affecting the Same. (*Arch. f. Kinderh.* [from *Brit. Med. Jour.*, Sept. 22, 1883], B. v., H. 9 and 10.)

The author has made a special study of the medicinal meteorology in its influence upon zymotic diseases in London, and has reported certain very interesting facts regarding the occurrence of the so-called summer diarrhea among children during the years 1876 to 1882. The results, to which the author calls attention, as a consequence of his investigations, are as follows: 1. In London the so-called summer diarrhea occurs chiefly among the lower classes of the people. 2. There are meteorological conditions which act both as predisposing and as exciting causes to the disease. 3. They are exciting causes from the fact that, as a constitutional irritant, they condition local irritation of the tissues and nervous depression, while the slow circulation through the portal system conditions a catarrhal tendency to the intestines, and gives rise to diarrhea. 4. As predisposing causes, in the presence of unsanitary surroundings and bad nourishment, the effect that everything which conduces to a vigorous propagation of micro-organisms should also give rise to epidemic diarrhea. 5. With reference to the varying temperatures at which this disease occurred, the lowest was 50° F., and the average 58° F. The higher the temperature, other things being equal, the more intense was the disease. 6. The less the rainfall and atmospheric moisture, the more intense was the epidemic, excepting in cases where the temperature was very high. With high temperature and a dry atmosphere the disease diminished in intensity, especially since those atmospheric conditions were usually followed by rain and low temperature, the latter being favorable, as already mentioned, to the diminution of the disease. 7. The more intense the epidemic, the nearer, as a rule, the summer solstice; hence long, dry and clear days, in which the sun is long above the horizon, are very favorable for the occurrence of summer diarrhea; though it is true that the direct effect of the sun's rays is paralyzing to the vitality of micro-organisms, or hinders their extensive development, yet on the other hand it also excites putrefaction. 8. Stagnation and a slow rate of motion of the air favor the occurrence of diarrhea on account of the lessened diffusion and oxidation of the exhalations of decaying matter. 9. The less ozone in the air, the less will be the purification and oxidation of the same, the greater therefore the accumulation in the atmosphere of the substances which cause diarrhea.

Pocock; Acute Rheumatism in a Newly-born Infant Treated with Salicylate of Soda. (*Rev. Mens. des Mal. de l'E.*, Sept., 1884. Abstract.)

A woman in the eighth month of her pregnancy was taken with acute articular rheumatism, and treated after the third day with salicylate of soda. The rheumatic pain disappeared after thirty hours and labor supervened. The rheumatism ran its course, however, and did not disappear entirely until five weeks afterward. As to the child, less than twelve hours after its birth it was seized with a violent fever and presented a painful swelling accompanied with redness upon the top of the right shoulder. Salicylate of soda, in twenty-five centigram doses. every two hours, was ordered, and at the end of twenty-four hours the temperature had fallen from 40° C. to 38.5°, and the pulse from 170 to 140; the pains had also diminished. The treatment was continued eight days, after which the child appeared to be perfectly well. There was no heart murmur at any time.

Diberder: Treatment of the Initial Phenomena of Scarlet Fever with Sulphate of Quinine. (*Rev. Mens. des Mal. de l'E.* [from *Jour. de Méd. de Paris*], Sept., 1884.)

In the development of scarlet fever it is noticeable tha the fever follows a regular course, with exacerbation which recur periodically. Paying attention to these intermissions, and administering sulphate of quinine from the beginning, it was observed by the author that the intensity of the fever was lessened, and the recurrences were retarded, until the eruption had almost disappeared. Each recurrence attended or called forth renewed activity in the development of the eruption, the last recurrence being the most marked one. It is without danger, however, if the quinine has been given in suitable doses. In severe cases of the disease it is believed that quinine lessens their gravity. The accidents which follow scarlatina are due to a retention of the poisonous principle in the blood, which acts similarly to the poisonous principle in malarial fever. The difference between them consists in the rapid progress of the scarlatinal elements. Quinine given as a preventive is a most effective means for this purpose, or for combating them when they have already appeared. The author believes that he is the first who has published a recommendation of the use of quinine in this disease. In severe cases he recommends the daily use of a gramme of the sulphate of quinine, for two or three days, or until the exacerbations have ceased.

Cnyrim: Reports from the Frankfort Milk Cure. (*Arch. f. Kinderh.*, B. v., H. 9 and 10.)

According to the author's investigations, the percentage of mortality among children in Frankfort, under one year of age, from diseases of the stomach and intestines, during the last two periods of five years each, has been almost exactly the same, although the poor population of the city has steadily increased, and the births and deaths during the past five years in the quarter which is chiefly occupied by the poor have been also growing more numerous. The assumption is, therefore, that during the past five years there has been an improvement in the conditions which relate to the nourishment of children. The relatively favorable condition of affairs is ascribed by the author in great measure to the favorable workings of the Frankfort Milk Cure. That the milk from this establishment is far better than ordinary city or market milk, was shown by a careful comparison which was made by Frankfort physicians. Children who were fed upon milk from the Milk Cure were almost free from diarrhea, and gained in weight. Some cases of intestinal catarrh were apparently cured by its use. Such reports do not agree with those which are commonly received concerning the bad effects of artificial nourishment for children. The author thinks that everything depends upon the quality of the milk, and this is so excellent at the Frankfort Milk Cure, chiefly because the cows at that establishment get only dry fodder, while cows in general get green fodder, or what is worse, the refuse of the kitchen, etc. The uniform character of the milk from dry-fed cows must also be an advantage over the changing character of that which is obtained from green-fed cows, for with the latter the proportion of albuminoids and cellulose changes with the season of the year. The greater expense of feeding upon dry food constantly adds, of course, to the price of the milk, and this makes it unobtainable for many homes.

Binnie: A Plea for the Artificial Feeding of Infants with Cows' Milk. (*N. Y. Med. Record*, Sept. 13.)

While nothing is equal to a healthy mother's breast, proper artificial feeding is better than many a mother's milk. A good healthy cow should be selected between the age of four and ten years, of mild disposition, which has been giving milk from four to eight weeks previous to the birth of the child. She should be fed on good clean grain, and hay free from must. Roots, if any are fed, should be of good quality, and she should have plenty of good clean water from a living spring or well. Her pasture should be Timothy grass or native grass, free from weeds; clover alone is bad. She should be cleaned and cared for like a carriage horse and milked twice a day by the same person and at the same time. Some cows are unfit by nature for feeding infants. Take three or four parts of warm water to one part of milk, and a little fine white sugar; bring all to the temperature of the body. Give the baby about two ounces every two or three hours. This strength is generally sufficient for the first two or three months, when the proportion of milk is gradually increased, so that by the time the child reaches four months it will be taking milk and water about equal parts, and an increased quantity. Should the child appear to be insufficiently nourished, increase the quantity of milk to water, or use barley water in place of simple water, especially if any tendency to diarrhea is present. The dangers from over-feeding, whether by too large a proportion of milk, or too great a quantity given, are greater than the opposite conditions, especially during hot weather. The cases are rare where the child can take pure milk with safety before the ninth month. No solid food or table-feeding of any kind are allowed until after a number of teeth are through. The causes of failure in this kind of artificial diet are as follows: 1. Want of cleanliness of the utensils. 2. Carelessness in the preparation of the food, as to the exact proportion of milk and water, at each meal. 3. The want of regularity as to time and quantity of feeding. 4. Changing from one cow's milk to another, or using mixed milks of different cows. 5. Allowing the child to nurse or drink too rapidly. There is a tendency among some in the profession to make the artificial feeding of infants too artificial by supplanting milk or giving it a secondary place. This cannot be done successfully.

Gonzalez Alvares: A Study of Croup and Diphtheritic Angina, and its Rational Treatment. (*Revista de Ciencias Medicas*, July 10, 1884.)

The author in this monograph of sixty-one pages divides his subject into four parts, in the first of which he treats of the nature and essence of the disease under consideration; in the second he describes the physiognomy and course of the disease; in the third the subject of treatment is discussed, with the constant and the accidental indications, especial stress being laid upon the use of phenic acid, both in a general and a local manner; in the fourth a series of clinical histories is narrated, and the following conclusions are drawn. 1. The disease is infectious and parasitic in character (croup and laryngeal diphtheria being considered synonymous), and is due to the propagation of a micro-organism which is the *zygodesmus fuscus* of Letzerich, the *micrococcus Diphthericus* of Klebs. The disease always presents local phenomena at first, and subsequently those of general infection. 2. The diagnosis is not complete unless diphtheritic membranes are found; there can be no true diphtheritic croup without them. 3. True croup, or laryngeal diphtheria is perfectly curable. 4. If the disease has not extended to the bronchi, the course is rapid and the result assured; (we suppose he means that this is the case in approved instances, with approved treatment.)

2. MEDICINE.

Greves: Acute Yellow Atrophy of the Liver. (*Liverpool Medico-Chirurg. Jour.*, July.)

A strong, healthy boy, twenty months old, had been attacked three months previously with a slight attack of jaundice which was treated by a druggist and recovered perfectly. Nearly two months afterward he again became yellow and seemed poorly, refusing food and being fretful. The stools were pale and offensive. Urine high colored. There was neither vomiting, diarrhea, nor pain. When he came under observation (twelve days after the last attack) there were present the usual signs of jaundice. Liver came down an inch and a half to two inches below margin of ribs, not tender on pressure. Superficial abdominal veins enlarged. No ascites or edema present. Temperature 99° F. Ordered pulv. Rhei and hydy. c. creta a few grains, and a linseed with mustard poultice to the region of the liver. He remained in about the same condition for five days, after which he appeared drowsy and was irritable when disturbed. In a few days he became restless, tossing about and screaming with pain; he laid chiefly on his face with arms and legs flexed. Twice he fell out of bed; slight convulsive movements of the arms were observed.

The liver was now found to be smaller, its lower margin could not be felt. Pain is now felt when pressure is made over the epigastric and hepatic regions. The following day he was unconscious; pupils dilated, responding slightly to light; breathing stertorous; severe convulsive movements of right arm; passes urine and feces in bed; temperature 100.2° F. The next day in the same condition with the addition of vomiting; morning pulse 140, respiration 72, temperature 104° F..; evening temperature 108.2° F.; convulsions all night; death. The urine during life contained bile-pigment, but neither albumen, casts, leucine, nor tyrosine. There were not any hemorrhages.

Autopsy.—Body well nourished, moderately yellow. Liver, a dirty yellow ochre color, small and shrunken; weight twelve and a half ounces (normal weight at this age nineteen to twenty-five ounces). Section shows not a trace of normal structure, all being a uniform yellow, greasy to the touch. A small quantity of bile in the gall-bladder was easily pressed into the intestine. Kidneys, yellow in color, apparently fatty. Microscopical examination of liver showed very healthy liver cells, almost all being in an advanced stage of granular or fatty degeneration. No crystals of leucine or tyrosine were found. The small bile ducts, in parts, were choked with fattily degenerated epithelium. This, according to Buhl and Bomberger, causes the jaundice by mechanical obstruction. Microscopical examination of the kidney showed the urinary tubules to be in an advanced stage of fatty degeneration.

Dr. G. has found reference to seventeen other cases under ten years of age. The records of nine he examined and found the clinical histories agreed with that of his own case. The disease is rare in children. It is most frequent in puerperal women, and between the ages of fifteen and thirty-five years. There are two theories as to the pathology, one which looks upon the disease as a simple disorder of the liver of local origin, and the other which regards the jaundice and severe nervous disturbance as the manifestation of a grave constitutional condition akin to the fevers like typhus, and so forth. The latter is the one now held by the majority of pathologists. The discovery of micro-organisms by Durchfeld in a liver removed a few hours after death tends in the same direction. There are other points which render the probability of its being a constitutional disease very likely.

Moizard: Night Terrors in Children. (*Res. mens. des Mal, de l'E.* July 1884.)

The picture which a child suffering with this condition presents is somewhat as follows: The child, say from three to six years of age, has gone to sleep apparently in his usual health. Two or three hours later he suddenly rises up in the bed, with eyes wide open, and evidently fixed upon some terrifying object; this may be to his imagination a monster, robbers, etc. His cries are pitiful, his words incoherent, and he fails to recognize the friends who are around him. This condition may last from five minutes to half an hour, then comes a period of calm, he falls asleep again, and the next day is as well as ever, without recollection of the experience of the previous night. The condition was first described by Hesse of Altona in 1845. Bouchut considered it a congestive neurosis of the brain. West, Steiner, Deseroigilles, Simon and others have described it with varying minuteness, but Debacker was the first to make a complete study of its pathogeny. No convulsions have ever been observed as accompaniments to it. West relates the case of a child, eleven months old, who was troubled with gastro-intestinal disease attributable to dentition, who was in the habit of having seven or eight attacks in a single night. The accident usually happens several nights in succession during a period of five or six weeks, and cases are related in which it has continued during a much longer period. The phenomena of somnambulism are sometimes observed in connection with this condition. It usually occurs in nervous, impressionable children, and very often in those whose constitution is weak, or who have been brought up in defiance of the rules of hygiene. The author, following the plan of Laségne and Debacker, divides the sufferers into two classes according as there exists or does not exist a permanent lesion of the brain. In the latter class the most frequent cause of the trouble is to be found in disturbances of digestion. This reflex disturbance of the cerebral circulation is believed to be more frequent in children than in adults, and this, notwithstanding the fact that insomnia, somnolence, vertigo, vaso-motor disturbances, hysterical and other morbid phenomena are well-known results of digestive disorders in adults. The morbid action is directed upon the vaso-motor nervous system, and the author mentions as causative elements too much, or too exciting food, too much alcoholic liquor and constipation. As to dentition, night terrors are much more frequently observed during the first than during the second dentition. Less frequent causes are intestinal worms, the irritation of certain skin diseases, and the absorption of certain drugs—belladonna, stramonium, and quinine being mentioned as examples. In the other class, in which cerebral lesions form an exciting cause, night terrors may be a preliminary indication of tubercular meningitis, cerebral sclerosis, cerebral tubercles, epilepsy, and hysteria. The prognosis is usually favorable excepting in cases in which severe cerebral lesions are present. The treatment should vary in accordance with the determining cause. Certain hygienic precautions of both physical and intellectual character should be observed in all cases. All cerebral excitement must be avoided, whether it be caused by the reading of fascinating books, or by listening to stories of a terrifying character. The subject should not be left alone in his bed-room, and when an attack comes on he should be soothed and sympathised with. Regular and healthful exercise should be insisted upon, and the diet should be light and unirritating. If dyspepsia co-exists alkaline preparations, pepsin, or the tincture of nux vomica may be given. West is in favor of suitable doses of bromide of potassium and chloral for a calmative effect upon the nervous system. Quinine is also recommended as a useful drug in many cases. If the gums are hot and swollen it will be eminently proper to relieve them by incision.

Woodbury: Blood Discharges from the Bowels in Children. [Read in Section of Diseases of Children, American Medical Association.] (*Jour. Amer. Med. Ass'n.*, Aug. 16.)

The author enumerates the bloody discharges which can take place from the bowels in children when the lesion is below the pylorus. Congestion of the mucous membrane, with or without accompanying catarrhal inflammation, is quite common amongst young infants, and occasionally causes bloody discharges; this congestion may be secondary to diseases of the other viscera. Mosler states that chronic diseases of the spleen are liable to be complicated with diarrhea. Hyperemia may be due to a disordered liver or its imperfect development. Hepatic cirrhosis has been observed in young children as a cause of intestinal hemorrhage. Occlusion of the portal vein or embolism of the umbilical may produce hemorrhage. Dysentery and entero-colitis, when severe, will give rise to bloody stools. Fissure of the rectum is a rare cause.

Foreign bodies as sharp pieces of bone, glass, or other substance, either swallowed or introduced into the rectum. Hemophilia, intussusception, melena vera or neonatorum has been assigned as a cause, but nothing definite is known. Prolapsus of the rectum is more frequent in children than generally supposed; Bryant says it is the principal cause of hemorrhage; prolapse of the rectum is less frequently accompanied by bloody discharges in children than in adults. Traumatism; fatal hemorrhages may be concealed. Ulceration; sloughing of necrosed follicles in the course of simple catarrh or inflammation of tubercular origin; in typhoid fever ulceration is rare in children.

Schäfer: Hysteria in Children. (*Arch. f. Kinderh.*, B. v., H. 9 and 10.)

The definition of Romber, that hysteria is a reflex neurosis which is caused by irritation of the genital organs, has not been sustained by investigations which have been made since his time. These investigations have also shown that this disorder is by no means peculiar to adult females, Briquet's researches showing that about five per cent. of all cases occur in men, and those of West, Bohn, A. Jacobi, Smidt and others, that it is not uncommon in both sexes in children. Among the latter it is not developed at the period of puberty with much greater frequency than at other periods of life, and it has been observed during the nursing period. A sharp distinction is made by the author between hysteria and mere simulation, which latter is more common among children than will be admitted by many. The distinction cannot always be readily made. Thus vomiting and convulsions may both be mere simulation, or they may be hysterical and nearly or quite involuntary. Concerning the etiology of this condition, a nervous temperament or disposition in the parents, in a word, heredity, exercises the most important influence. Faulty education, improper food and hygiene are also important factors. Other causes are found in the prostrating effect of severe illness and vicious habits. Among the latter may be mentioned masturbation, upon which A. Jacobi lays great stress as an etiological factor. The phenomena which are presented by children suffering from this condition are as varied as those which are seen in adults. With reference to disturbances of sensibility of the nervous system, there may appear hyperesthesia, anesthesia, and paresthesia, and these may be manifested by great sensitiveness to pressure in various localities, neuralgic pains, especially about the head and face, and painful joint affections, under the head of hyperesthesia. Under the head of anesthesia may be a general or local insusceptibility to pain, with more or less obtuseness of the senses in general. Paresthesiæ are seen mainly in the form of perverted sensations. In the domain of the motor nerves great variety is also manifested. The spasms may be either tonic or clonic, and embrace one or several muscles or groups of muscles. Not alone are the skeletal muscles thus involved, but the affection may include the muscular apparatus of the stomach, esophagus, vocal organs, and other organs of the body, and give rise to vomiting, stricture, cough and other phenomena. Hysterical paralyses are usually limited to the extremities of one or both sides, and are not infrequently associated with anesthesia, as in the genuine affections. Vaso-motor changes may also be a feature of this condition, leading to abnormalities in the blood-supply of parts and organs. Increased or diminished activity in the secreting power of the sweat glands may be mentioned in connection with this portion of the subject; also increased or diminished functional activity in the salivary glands, kidneys and intestines. The psychical condition of an hysterical child is usually a disturbed one; he is apt to be irritable, egotistical and unnatural, but there is seldom a development into insanity. The prognosis is somewhat better among children than among adults, still in children of an inherited hysterical tendency the prospects of complete recovery are not flattering. Remissions, however, of varying duration may be looked for, even in cases which do not promise well in regard to ultimate recovery.

Treatment.—In regard to treatment, it should be remarked that prevention is often possible by careful attention to education, hygiene, etc. Plenty of exercise should be insisted upon, the mind should be directed away and apart from self; especially should masturbation and other hurtful habits be guarded against. As to medicines, they are to be avoided as far as possible, the anti-hysterical drugs, valerian, assafetida, galbanum, bromide of potash, and musk, being only for extreme cases. Electricity and cold baths will often prove to be useful and tonic in their effects. During an hysterical spasm care should be taken that the patient does not injure himself, but sympathy should be withheld. In severe cases it may be necessary to administer chloral, chloroform or morphine; in others the free application of cold water to the surface of the body will be effective. In all cases the condition may be more effectually treated apart from the sympathy and credulity of home and friends.

Madden: Notes of a Case of Incontinence of Urine from Malformation of Right Ureter. (*Amer. Jour. Obstetrics*, July.)

Incontinence of urine, although so common and usually curable in children, in many instances proves intractable to medical treatment. In the following case is exemplified a cause of incontinence which, as far as the author is aware, has not been noticed by any writer on the subject. The patient, a young lady in her sixteenth year, was first brought to the doctor about five years ago, and treated for ordinary incontinence of urine by the usual remedies. She was then sent away to school and lost sight of. No benefit was derived from the treatment prescribed, and she had since been treated by several eminent physicians without any apparent result. As the flow of urine was now incessant, although at the same time she had power of retaining and voiding a small quantity at regular intervals, some malformation was suspected, and an examination proposed. After putting her under chloroform it was found, first, that the bladder had power of retaining a considerable amount of urine; second, that there was no fistulous communication between the bladder and vagina; and third, after a long and careful examination, it was ascertained that about half an inch above the meatus urinarius there was a minute orifice from which a small stream of urine was continually escaping, but which was almost completely concealed by the rugæ of the vaginal mucous membrane. This passage was then traced by a No. 1 catheter, introduced as far as it could be passed. The length of the canal, and the constant dribble of urine through it, were sufficient to distinguish this from either what is generally described as the efferent duct of the Wolffian body, or Gærtner's duct, or from the peri-urethral duct recently discovered by Dr. Schuler, of Berlin.

Milroy: Fatal Hemorrhage from Supra-Renal Capsule in a Young Infant. (*Amer. Jour. Obstetrics*, July.)

The following case is reported as showing a possible cause of death in a young infant not likely to be suspected. Susanna J., aet. twenty, gave birth to a child on May 17th, after a normal labor. Child male, weighed eight pounds, and for twelve hours and a half after birth was, to all appearances, perfectly healthy. At this time it was seized with vomiting which lasted only for a few minutes and was not repeated. Rapidly following this, the extremities became cold, the features pale and sunken, the respiration shallow and rapid, and each expiration was accompanied by a short, sharp cry. In spite of treatment the baby gradually sank, and died one hour and thirty minutes from the time when the vomiting began. The child had suffered no violence subsequent to delivery. Autopsy: The intestines were displaced somewhat to the left by a firm blood-clot. This clot was about the size of a man's fist, entirely enveloping the right kidney and supra-renal capsule. The source of the blood was a rupture in the supra-renal capsule. A large quantity of fluid blood was found within the peritoneal cavity, and an opening was found in the peritoneum through which this had passed from the seat of hemorrhage in the supra-renal capsule. As to the etiology of this lesion the doctor can only give a probable explanation. Similar hemorrhages occur from the mucous membrane of the alimentary tract, from the pleura, pericardium, peritoneum, and pia mater of the brain. The general belief as to the cause of these hemorrhages is as follows: A congenital deformity exists, giving rise to a weakening of the veins of a part, with subsequent rupture, if the venous circulation be subjected to undue obstruction from any cause. Such cause may arise during labor from pressure on the funis due to an unusual shortness of the cord, to its several times encircling the child's neck, or to its becoming compressed by the uterus, as in breech presentations; or else the cause may arise after birth from atelectasis. The offsprings of apparently healthy women are by no means exempt from a liability to vascular weakness, as shown by the case just cited.

Weihe: Contribution to the Worm Diseases which are Peculiar to Man. (*Arch. f. Kinderh.* [from *Berl. Klin. Wochen.*, 1883, No. 9], B. v., H. 9 and 10.)

The author tells of a little girl four years of age who came under his observation and who from the time of her birth had frequently suffered from swellings and abscess formations in the region of the navel, and also from the presence of lumbricoids. After a large navel abscess had been opened there were subsequently found in the bandage which covered the wound six living lumbricoids, and others were found at later periods. On one occasion the author was able to draw out a worm from the navel opening by its head. Large doses of santonin were given and ten more worms escaped from the navel, several others being passed with the feces. The abscess healed without further trouble. As to the origin of the navel fistula there had probably been inflammation, and perhaps a fistula of the small intestine very early in life. The intestine had gradually become united to the navel ring, and this, with the assistance of the lumbricoids, was followed by the perforation of the abdominal wall.

Wins: A case of Diphtheria of Unusually Long Duration. (*Rev. Mens. des mal. de l'E.*, July, 1884.)

The author refers to the fact that Cadet de Gassicourt, Empis, Barthez, and Isambert, have already recorded cases of diphtheria which lasted much longer than its usual duration, and adds in his paper a similar case which occurred under his observation. The case occurred in a child six years of age. A general eruption was present for nine days, at the end of which period there was pain in the throat, with elevation of the body temperature. Two days later a false membrane appeared upon the left tonsil, then the right one, and the pillars of the pharynx became involved, and the cervical glands enlarged. After twelve days the false membrane disappeared, but an abscess formed in the right cervical region. This was opened and soon healed. The urine contained a small quantity of albumen, but this disappeared with the disappearance of the false membrane from the pharynx. During the course of the angina a diphtheritic patch two centimeters in diameter appeared upon the left side of the lower lip. Three days later two new patches appeared upon the right side of the lip. These remained for a short time and were then replaced by others, the process continuing until the seventieth day from the beginning of the disease, when they disaappeared entirely, without recurrence. These membranes upon the lip were thin, greyish in color, developed upon a red base without consequent ulceration, and were not attended with pain or with difficulty of mastication. After the general disease had disappeared, these secondary phenomena appeared to be entirely local, being unattended by elevation of temperature, or by albuminous urine. The child did not recover his accustomed health and spirits, however, until the final disappearance of the patches upon the lip. The author agrees with Cadet de Gassicourt in his opinion that the danger in these protracted cases of diphtheria depends exclusively upon the location of the diphtheritic phenomena.

Jacubasch: A Case of Diaphragmatic Pleurisy. (*Arch. f. Kinderh.* [from *Berl. Klin. Wochen.*, 1883, No. 41], B. v., H. 9 and 10.)

The case in question was that of a boy, five months old, whose first symptom was that of a tumor with a diameter about as large as that of half a dollar in the anterior axillary line, between the fifth and sixth ribs. Its size varied with the respiration, it could be made to disappear entirely by pressure, and then a visible deficiency in the thoracic wall could be made out. The soft parts which were over the tumor presented no abnormality, percussion gave tympanitic resonance, accurate auscultation was not possible. Death occurred before a careful examination under chloroform was obtainable. The autopsy revealed not a hernia of the lung as had been diagnosticated, but an abscess at the site of the tumor, which was located between the external thoracic wall and the serratus magnus muscle, and communicated with the cavity of the chest by a round opening two centimeters in diameter. This opening resulted from caries of portions of the seventh and eighth ribs, and led into an encapsulated cavity as large as a hen's egg, which was bounded inferiorly by the peritoneum, above by the pleura at the base of the lungs, and laterally by the thoracic wall. The posterior half of the surface included by the base of the lungs, was covered with a thickened, cheesy exudate, and the contiguous lung tissue was hepatised.

Russel: Enteric Fever, Meningitis, Perforation of Gall-Bladder. (*Brit. Med. Jour.*, July 12.)

A boy, aged seven years, ten days previous to admission was taken with a chill, having been wet, and had constant vomiting with considerable delirium. On admission, temperature 104° F.; roles posteriorly over both lungs; irritable and restless. Six days after he became suddenly collapsed, the temperature falling 5° F. to 9.98° F. He rallied and was attacked with pneumonia. He died on the twenty-eighth day of the primary disease. No rash had appeared, but the characteristic stools had been observed. Four cases of enteric fever had occured in the same house where he had lived. Autopsy: Brain, thick layers of lymph at base and to a less degree over the vertex; lat. ventricles full of purulent serum, otherwise normal. Abdomen, a cavity existed bounded below by the colon and stomach, above by the liver, in front by the abdominal wall, and behind by the peritoneum. The cavity contained bile which had escaped from two ulcers near the neck of the gall-bladder. The perforation probably took place at the time of the collapse.

Steeves: Rotheln. (*Liverpool Medico-Chirurg. Jour.*, July.)

Dr. S. saw five cases of rotheln consecutively, and gives the following account of the cases: Four were of one family, aged respectively eleven, nine, eight, and six years, the fifth aged five years. The three first were girls, the two last boys. The first four had always been healthy, only having had whooping cough some years previously. The last patient had scarlet fever and measles two years previously. There were neither measles nor rötheln in the neighborhood, but there was scarlet fever a few doors from the first four patients and to which also the fifth had been exposed. No. 2 became ill three days after No. 1, so that they were probably exposed to the same contagion. No. 3 was taken ill ten days after No. 2 had left the sick room and No. 4 ten days after No. 3 had joined them. Writers make the incubation period from one to two weeks. The rash appeared within twenty-four hours in all the cases, and in two was the first symptoms. It did not last longer than four days. It first appeared as minute papules, quickly coalescing to produce irregularly shaped patches of a darker color without any tendency to assume a crescentic shape. The seats of eruption favored were the forehead back between the shoulders, then the chest and extremities. There was no desquamation. Each epidemic seems to have certain peculiarities which will account for differences in description of symptoms that are supposed to be common.

The submaxillary glands were enlarged and tender. The enlargement of the suboccipital gland has been said to be pathognomonic, but in these cases where it was sought for in only two was it found, and these were stournous children in whom slight causes readily produce effects that are dependent upon the diathesis. Congestion of the conjunctivæ was a prominent symptom in all. Sore throat was well marked. Headache occurred at the outset and was very severe for several day. Dr. S. thinks that under certain constitutional conditions the contagion of scarlet fever may be the excitatory factor in producing such a poison in the system as shall determine the specific disease in question.

Barlow: Congenital Xanthelasma. (*Med. Times and Gazette*, May 24.)

A boy, seven years of age, showed typical shammy-leather patches on the eyelids and shoulders, and cream-colored staining on the ears. The disease was usually one of adult life or old age. The congenital cases differed from the ordinary ones in not having the eyelids involved. There was no distinctive sign of hepatic disease as is usual in the congenital form, but there was renal calacli and hematune. Patient's father had relapsing psoriasis; his grandfather gout. The disease may be hereditary.

Russel: Miliary Tuberculosis. (*Edinburgh Med. Jour.*, July, 1884.)

At a meeting of the Medico-Chirurgical Society Dr. R. showed a lung, from a child aged four years and nine months, which contained miliary tubercles. There was a family history of Phthisis. For two months previous to the fatal termination the general condition had been one of debility and listlessness, with slight cough. No diarrhea or sweats. Tongue clean and moist. temperature febrile. At the extreme base of the left lung posteriorly there was a localized area of dullness, over which coarse râles were heard. Treatment was of no practical benefit. Emaciation progressed; the temperature became higher, 100° F. in the morning, 103° F. at night; respiration more accelerated; cough more marked. A week before death unequivocal evidence of the condition having implicated the base of the train was obtained. The autopsy showed that the disease had begun at the base of the lung, and was probably of inflammatory origin. The brain showed miliary tubercles at the base. The spleen was the only other organ which contained tubercles. Bacilli were not found.

Comedones: (*Lancet*, June 28.)

The affection appears to be overlooked or considered rare, for English authors on skin and children's diseases pass it by or state that it does not occur in children. This article contains the report of twenty cases occurring in children from two to fourteen years of age. It began on the forehead and extended in some cases to the angle of the jaw, not lower. It had lasted from two to six months and longer before treated. The patients presented themselves for treatment only on account of the disfigurement. The cause appears to be retention of sebum in the sebiparous ducts. The treatment consisted in friction with soap and hot water, followed by this lotion, allowed to dry on: Carbonate of potash, one dram; glycerine, six drams; water, six ounces.

Hadden: Cerebellar Abscess. (*Brit. Med. Jour.*, June 7.)

A boy, aged seven years, with a family history of phthisis, four months previously had a discharge from the ear, which came on without evident cause and lasted three and a half months. It then ceased, and he began to complain of occipital headache. Very shortly he could not walk properly and had constant vomiting, also photophobia; pupils dilated, equal but sluggish; double convergent strabismus, and marked double optic neuritis. An abscess was found behind the right ear, which was opened and gave exit to three ounces of pus; the bone was then found to be laid bare. Shortly before death respiration ceased occasionally for a few seconds; left pupil much smaller than the other. Now and then he uttered a loud cry, like the hydro-cephalic cry. Toward the end there were convulsions with episthotonos. Temperature, normal throughout.

Autopsy: Abscess in right lobe of cerebellum, near the upper surface; the abscess had a lining membrane to its cavity, which contained one ounce of pus; no meningitis at base. The tympanum of right ear was partially detached; in the middle ear there was a soft reddish material. There was a streak of carious bone from the posterior wall of the tympanum through the mastoid cells. The connection between the ear-trouble and abscess, while apparently that of cause and effect, could not be traced.

Croner: Nephritis as a Sequel of Parotitis. (*Brit. Med. Jour.*, August 27.)

A boy, aged six years, had an attack of mumps, which ran its usual course. The child obstinately kept in bed, although his general condition was improved. On the fifth day the fever reappeared, the right parotid gland being considerably swollen, and in twenty-four hours it diminished, and his illness seemed as if it would terminate as usual. Two weeks afterward the eyelids and hands and feet became swollen, and there was also a slight degree of ascites present. Urine, scanty, bloody and highly albuminous. Six days afterward he had another attack of fever; the submaxillary glands became enlarged and painful. These symptoms subsided and he recovered, the urine, however, containing albumen for five weeks. Dr. C. has found but one similar case, and that occurred to Henoch.

3. SURGERY.

Roe: Retro-Pharyngeal Abscess. (*N. Y. Med. Jour.*, August 2 and 9.)

Throughout the body, organs requiring a large amount of motion upon each other in the performance of their respective functions are connected by, and the space between them is filled with, loose areolar connective tissue. It is this space that affords the most favorable location for the formation of abscess, the deposit or the collection of the products of broken-down degenerate tissue. The causes determining the location of abscess in these spaces are: 1. The low degree of vitality of this tissue and the readiness with which it breaks down when attacked by disease. 2. The looseness of this tissue and the ease with which it can be pushed aside or displaced by the accumulations of inflammatory products originating in neighboring parts. The space behind the pharynx and in front of the vertebral column is filled with a layer of this loose connective tissue to facilitate the movements of the pharynx over the spinal column, necessitated in the act of deglutition, and the accumulation of pus in this space is called retro-pharyngeal or post-pharyngeal abscess. These abscesses are divided into two main classes: 1. Those that originate in the soft parts; 2. Those that originate in disease of the spinal column. According to their clinical manifestation or causation, they can be again divieded into—1. Idiopathic. 2. Secondary from burrowing of pus from abscess in the neck. 3. Secondary from burrowing of pus from cervical spondylitis. 4. From phlegmonous inflammation following measles, scarlatina, diphtheria, tonsillitis, and so forth. 5. Metastatic in septicemia and following local inflammation, or the formation of pus in other parts of the body. 6. Traumatic.

The relation between idiopathic retro-pharyngeal abscess and retro-pharyngeal lymphadenitis is readily shown by the study of the glandular structure of this region. These glands are the compound follicular and the racemose. The former are quite numerous beneath the mucous membrane throughout the pharynx, while the latter are located mostly in the upper part, forming a thick layer across the back part of the fauces between the two eustachian tubes (Gray). The lymphatic glands of this region are described by Edward Simon as communicating with vessels which run in a sort of furrow between the forward end of the eustachian tubes and the rear end of the turbinated bones. Here they form a small network from which two or three trunks of about one millimetre in diameter arise. These run obliquely backward and outward, one of them terminating in a gland in front of the vertebræ. The connection between idiopathic retro-pharyngeal abscess and retro-pharyngeal lymphadenitis is demonstrated by complete records of these affections kept by Bókai, as they occurred in the Children's Hospital at Pesth during twenty-six years, the statistics of which are given at length in the paper. Another fact which points to the lymphatic glands as the seat of idiopathic retro-pharyngeal abscess is the slow development of the abscess and its circumscribed condition.

Etiology.—All constitutional diseases that predispose to inflammation of the lymphatic glands in general play an important part in the production of retro-pharyngeal abscess. Of these scrofula and hereditary syphilis stand at the head. The most frequent exciting cause is exposure to sudden changes of temperature and the taking of colds, giving rise to attacks of rhinitis and inflammations about the fauces. It is now believed that retro-pharyngeal abscess following scarlatina, measles, erysipelas, and other affections attended with inflammations about the naso-pharyngeal cavity in children, is of the same nature as the idiopathic form, and is the result of disease set up in the glands from lympathic absorption rather than from the formation of pus in the connective tissue as the direct result of the phlegmons. Violent phlegmons of the pharynx must rarely be the cause of retro-pharyngeal abscess, for among the many cases seen by Bókai not one was caused by diphtheria. Suppuration in the tympanic cavity in children is pointed out by Wiel as a not infrequent cause of retro-pharyngeal abscess.

The general symptoms attending this affection—as dysphagia, or aphagia, dyspnea, dysphonia, cough, swelling of the neck externally, and so forth—may resemble croup, edema of the larynx, enlarged tonsils, or a foreign body in the larynx, but a thorough examination of the throat will at once reveal the nature of the difficulty. The most common symptom is difficulty in swallowing, although exceptions to this rule occasionally occur. In those cases where the abscess is so deep seated that it cannot be seen or felt, the voice has a peculiarly shrill tone like a duck's voice. There is in all cases a peculiar stiffness of the neck resembling rheumatic torticollis, the head being thrown to the unaffected side.

Diagnosis.—The two means on which we should solely rely in making an examination are inspection and palpation. On suspecting an abscess that cannot be seen, the vault, as well as the lowest portion of the pharynx, should be thoroughly explored with the finger.

Complications.—The principal danger is suffocation, either from rupture of the abscess and sucking of pus into the larynx, from closure of the larynx by the direct pressure of the swelling, or from secondary edema of the glottis. Convulsions are a complication that frequently arises. Death from hemorrhage, from opening of the carotid or its branches after the opening of the abscess, seems to be a not very infrequent complication.

Treatment.—In all cases where pus can be detected it should be immediately evacuated. Various methods have been proposed for opening the abscess, as the trocar and canula, the aspirator, the guarded bistoury, and the finger nail. Chiene has proposed that in every case of retropharyngeal abscess the opening be made externally, and he proposes that this be done antiseptically after the method of Lister. In eleven out of seventeen cases Schmitz found a fluctuating swelling behind the angle of the lower jaw (usually on the right side).

Herz: The Treatment of Intestinal Intussusception in Childhood, with Especial Reference to Laparotomy. (*Arch. f. Kinderh.*, B. V., H. 9 and 10.)

Assuming that intestinal intus susception exists, manifested by vomiting, singultus, tenesmus, and severe colicky pains, various medicinal and mechanical means are suggested for its relief. Drastic purging, the use of emetics, and blood-letting are means which, at the present time, would scarcely be thought of in this connection. On the other hand it may be useful to employ warm baths, pieces of ice, or iced water to allay thirst and vomiting, or cold applications to the abdomen. For internal use opium is indicated, either by the mouth, the rectum, or by subcutaneous injection, and should be given in sufficient quantities to subdue the urgent symptoms. Chloral hydrate by the rectum and inhalations of chloroform are also eminently useful, and are highly recommended by many writers. In regard to mechanical means for reducing the invaginated intestine, an esophageal sound has sometimes accomplished this end, and it is suggested by one author that a sponge be attached to the anterior extremity of it. Another has suggested that it be hollow to admit of the injection of air or fluid, if such a plan be deemed advisable. Both gases and fluids have been employed many times in this condition, with varying degrees of success. Either atmospheric air or carbonic acid gas may be used, and if fluids are deemed more suitable, simple luke-warm water may be injected, or water which has been impregnated with carbonic acid. In all cases it is, of course, necessary to use as little force as possible, bearing in mind the readiness with which the intestine may be wounded. The author suggests the knee-elbow position as favorable for making the injection, and the additional employment of massage so far as practicable. Experiments upon the cadaver have shown that an elevation of twelve to thirty centimeters gives sufficient force to a stream of water to pass the ileo-cecal valve. The author suggests that further investigation may show that electricity furnishes a successful means for reducing invagination. As yet, however, no successful efforts in this direction have been made. Finally the purely surgical aspect of the condition, as regards treatment, is to be considered. The inducements to perform laparatomy in cases of this character are certainly more promising than they were before the days of antiseptic surgery and ovariatomy. An interesting series of twenty cases is detailed in which laparotomy was performed, the children varying between fourteen days and fourteen years of age. Six of them recovered, their ages being respectively two years, seven months, six months, fourteen years, nine months, and six months. Such evidence is sufficient to show that the operation is a justifiable one, and also that infancy need not be a contra-indication. As to the best time for performing the operation, since the condition may have existed sometime before it is discovered, it is better not to wait very long. Widerhofer believes that it should be done within twenty-four hours from the time when the severe symptoms appear.

Kulenkampff: A Case of Entero-Cystoma; Death from Intussusception. (*Arch. f. Kinderh.* [from *Centralb. f. Chir.*, 1883, No. 42], B. V., H. 9 and 10.)

The case in question was that of a boy, three years of age, who had previously suffered from constipation and colic. He was suddenly taken sick, and vomited large quantities of dark-brown matter. There was no fever, but great restlessness, with distension of the abdomen. Hot cloths were laid upon the abdomen and a rectal injection was ordered. On the following day the temperature had reached 38.4° C., the abdomen was tender to the touch, and over the right iliac region there was dullness upon percussion. Calomel was ordered in the hope of evacuating the bowels. Death occurred upon the same day, however, after a violent attack of vomiting. At the autopsy a thin-walled cyst as large as a man's fist was found in the mesentery of the ileum, about forty centimetres from the ileo-cecal valve. Its pressure had produced collapse of the ileum at one point, while above it the ileum was greatly dilated. The cyst had probably developed in Meckel's diverticulum, and its puncture or removal by laparotomy might have been followed by recovery.

Walsham: Talipes Calcaneus of Paralytic Origin Treated by Excision of a Portion of the Tendo-Achilles. (*Brit. Med. Jour.*, June 14.)

Four cases of talipes calcaneus of paralytic origin, well marked, consisting of two girls respectively two and three and a half years of age; and two boys, both three years of age, were operated upon. A vertical incision was made at the narrowest part of the tendo-Achilles, care being taken not to interfere with the vascular supply and surrounding connection of the tendon, a director passed under it and cut transversely, an artery forceps having previously been fixed in the upper portion to prevent its retraction. From one-half to two-thirds of an inch of the lower end was then obliquely sliced off from above downward and before backward, the two portions brought together, the upper behind the lower, the foot meantime being held in extreme extension and spliced by two moderately sized kangaroo tendons, one on each side. The operation was done under the spray, and the wound dressed with eucalyptus gauze, the foot being kept in extension by accurately fitting splints, plaster or others. All were improved. Two regained the power of flexion and extension of the foot. Those cases in which the calf-muscles have undergone complete atrophy and fatty degeneration are not fit for operation, but when any muscular fibres remain the shortening of the tendon appears to restore somewhat the lost power of the muscles. The galvanic current should be applied after the tendon has united.

Pott (Halle.): **A Fecal Fistula in the Scrotum of a Child four months old.** (*Jahrb f. Kinderh.*, B. XXI., H. 4.)
This child had been prematurely born at the eighth month, and was well until the fourteenth day, when symptoms of inflammation appeared upon the scrotum. Three weeks later perforation occurred upon the anterior wall of the scrotum on the right side. A fistula remained, and from it feces and intestinal gas began to come away after another period of three weeks. The discharge of urine was uninfluenced by the fistula. The opening to the fistula was upon the right side of the anterior scrotal wall, one-half of a centimetre from the raphe. It was funnel-shaped, dark-red in color, deficient in epidermis, and moist to the feel. The fistulous passage was only large enough to admit a thin copper sound, and out of it came greenish-yellow masses, identical, as shown by the microscope, with that which came from the bowel. Passing from the fistula, in a direction upward and outward, a cord-like body could be felt, five centimetres long, and as thick as a lead pencil. It was not returnable to the abdominal cavity. Both testicles could be made out within the scrotum, and the diagnosis of the given condition was decided upon as a right inguinal hernia, which had become adherent at its end with the inner wall of the scrotum. The author proposes the following sequence of events as an explanation of the cause of the fistula: A portion of the involved gut became gangrenous, perforated, caused peritonitis of the hernial sac, resulting in a local phlegmon of the scrotum, and thus led to a fecal fistula. No operative interference in this case was attempted.

Roemer (Berlin): **Ovariotomy upon a Child Twenty Months of Age.** (*Jahrb. f. Kinderh.* [from *Deutsch. Med Wochen*, 52, 1883], B. XXI., H. 4.)
In the case in question, the midwife in attendance at the birth of the child noticed an enlargement of the abdomen. At nine months of age, when the first attempts at walking were made, the parents observed a peculiar bearing of the body resembling lordosis. When the child

was examined during anesthesia, a movable, fluctuating tumor, with some parts which were more resisting than others, was found rising out of the true pelvis. This tumor was diagnosticated as a cyst. When the child was twenty months old laparotomy was performed, an ovarian tumor as large as a child's head being removed from the right side. Recovery was speedy and complete. The tumor was found to be a teratoma composed largely of connective tissue and hyaline cartilage; it also contained osteoid tissue, and bones with medullary spaces. The main body of the growth consisted of one large and several small cysts.

Bergmeister: Congenital Dermoid Growth on both Eyes. (*Med. Times and Gazette*, June 28.)

At a meeting of the Society of Physicians of Vienna, a girl was shown on whom these growths were symetrically situated partly on the cornea and partly on the sclerotic of the eye. They consisted of the tissue of the cutis and sometimes contained fat. These growths usually developed at puberty, previously to that period often remaining quiescent. In this case the face is asymmetrical, the left corner of the mouth stands at a higher level than the other, and there is a cicatrix extending from it to the left ear. The left side of the face is less developed than the right. The association of warts in the pre-auricular region has been remarked by Arlt, and cases in which such dermoid tumors have occurred together with colobomata and other abnormalities have been published. Van Duyse has attempted to explain them by assuming that they are the result of a process which takes place in utero, the amniotic membrane uniting with prominent portions of the epidermis. In this case Dr. B. is inclined to regard the pre-auricular cicatrix as a "fissura buccalis," which had become closed in utero.

Brosin (Halle): Congenital Sarcoma of the Kidney with Striated Muscular Fibres. (*Virchow's Arch.*, B. XCVI., H. 3.)

The author adds the details of a case of this rare variety of neoplasm to the six which were all he could find recorded in the literature of the subject. A comparison of these seven cases shows that they were discovered (post mortem) between the seventh and thirty-ninth months of life, and in children who were delicate from birth, with swelling of the abdomen and general emaciation. Hence

Cohnheim's hypothesis that the growth is a congenital one. The tumors were apparently developments from the vascular connective tissue of the kidneys, without encroaching upon the secreting parenchyma of those organs. The connective tissue fibres, with the striated muscular fibres formed the frame-work of the tumors. The muscular fibres in no case reached the perfection of the muscular fibres of the skeletal muscles. Their average breadth was five to six millimeters, and they were observed by Cohnheim of as great a length as two centimeters. The striation was always discernible, nuclei were observed, but no sarcolemma was noticeable. That the muscular fibres did not develop from the contiguous striated muscles of the body is shown in the fact that there was a sharp line of separation between those muscles and the tumors, and also by the ease with which the latter were removed from the abdominal wall. In the case which was described by the author there were also spindle-cells and round-cells, the former of which were allotted to the connective tissue portion, and the latter to the purely sarcomatous portion of the tumor. [The author in his search of the literature of this subject has overlooked the case of A. Jacobi, which is recorded in the *Amer. Jour. of Obst.* (Trans. Obstet. Soc.), Vol. xiv., p. 113. There are, therefore, at least eight recorded cases of this neoplasm.]

Barwell: Apparatus for Chronic Joint Disease. (*Lancet*, August 2.)

Mr. B. in a clinical lecture now gives the preference over Taylor's, Sayre's, and Thomas's, to the following apparatus for chronic joint diseases, the apparatus being modified for different joints. The method is one to which his attention was called by Dr. Von Wahl, of Dorpat, but invented by Dr. Dumbrowski of that University. The knee joint is taken as an example. To the knee above and below the joint poroplastic felt or leather is moulded by the hand or by bandage; while these are hardening the sound limb is placed with its posterior aspect on a piece of paper and a tracing is made of its inner and outer aspects. The circumference of the top of the thigh is taken in an oblique direction, *i.e.*, from the perineum to a point a little above the great trochanter. The splint-like moulds, being removed, the instrument-maker bends two flat bars of steel or of iron, about three-fourths of an inch broad, to the shape of the tracings, only with a larger divergence at the knee and two to two and a half inches longer than the limb. These bars are to be riveted to the poroplastic felt or leather which is provided with straps. The upper ends of the bars are made fast to a well padded ischio-iliac ring, provided in front with a hinge and flap. The lower ends are fastened by a pivot joint to a plate that underlies the sole. To put the appliance on, the leather or felt is to be softened, the ischio-iliac ring opened; the limb being put in, the straps are buckled and the patient left at rest until the leather or felt has hardened. A high-heeled shoe is made for the sound foot and the patient allowed to go about; at first on crutches, afterward without them. Motion cannot take place at the joint, nor can the weight of the body fall upon it. The joint is a perfect rest and can be examined.

Barr: Empyema; Exsection of Portion of Rib; Recovery. (*Liverpool Medico-Chirurg. Journal*, July.)

A boy, aged eight years, three months previously had typhus fever, accompanied or followed by empyema on the left side. On admission he had chills. Temperature, 102° F.; fair appetite; bowels regular. Five ounces of pus were aspirated. He became worse, so that at the end of six days an opening was antiseptically made between the fifth and sixth ribs, in front, and a drainage-tube inserted. The cavity was washed out daily with Condy's fluid. He began to improve at once, the tube being removed in a little over a month. The improvement was of slight duration, for before fifteen days he had begun to fail. The tube was reinserted, and he picked up again. In two months' time he began to go backward, a portion of the cavity, the posterior, not healing up. A portion of the rib over this part of the cavity was exsected, the periosteum being left; all antiseptic precautions being observed. In a month's time the wound was healed. When shown by Dr. Barr, a month afterward, he was the picture of health, fat and ruddy; the left side being nearly as full as the right, and expanding nearly as well. The respiratory murmur is good over the entire left lung. There is no disturbance of respiration; pulse, good. A small gap can be felt where the rib was exsected, but this is filling up.

Bibliography.

Diphtheria, Croup, etc.; also, a Delineation of the New Chloral-Hydrate Method of Treating the Same. By C. B. Galnntie, M.D. Published by J. H. Vail & Co., New York, 1884.

The above is the title of a book which proposes the internal administration of chloral-hydrate as a specific in the treatment of diphtheria and of pseudo-membranous croup. The proposition is theoretically based upon the antiplastic property of the drug. Says the author (p. 113): "If an ounce of healthy human blood as it flows from an open vein be caught in a wine-glass or vial containing one-fourth of an ounce of a ten-per-cent. solution of chloral-hydrate, of the same temperature as the blood, and stirred sufficiently to intermix the two, no proper coagulation will afterwards occur." Adding (p. 114): "The fact is in my mind well established that it exerts a similar influence upon the living blood in the body." The author claims to have used chloral-hydrate in over five hundred cases of diphtheria with a mortality of less than two per cent. (p. 118): also, to have used it in eight cases of true croup, of which six recovered.

It is to be regretted that the details of these cases are not given.

In dosage, the author recommends, for adults, of chloral-hydrate and of pot. chlorat, six grains each, to be given every hour until hypnotism has been produced; to children, two grains of each, given every one hour; and to infants, one-quarter of a grain each of chloral and of bromide of ammonium, with two drops of chloroform to be given every one hour.

The author recognizes that chloral diminishes the temperature and diminishes the blood-pressure with the force and frequency of the heart, yet he does not omit its administration in cases with subnormal temperature and failure of the heart; nor does its irritating influence upon the gastric mucous membrane form any contra-indication to its use. S. E. P.

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TRAUMATIC ECZEMATOUS DERMATITIS IN AND ABOUT THE EXTERNAL EAR OF INFANTS AND YOUNG CHILDREN.

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At birth the temporal bone consists of three separate pieces, viz., the pyramidal or strictly petrous portion, the squama, and the annulus tympanicus. From the squama the posterior and upper wall of the auditory canal is developed *pari passu* with the outward developing extension of the mastoid portion; while from the annulus tympanicus the lower anterior wall of the auditory canal is gradually formed by the outward growth of the bony tympanic ring. The canal is not fully ossified until near the fifth year. It can be seen, therefore, that the infant has no osseous, external, auditory canal. In its place there is a short, fibrous canal, which is slowly replaced by the gradually growing and longer osseous canal.

The internal ear, however, as well as the middle ear with its contents, and the membrana tympani, are of full size at birth. The membrana tympani occupies at this time a nearly horizontal position, closely corresponding to the plane of the base of the skull. As the annulus tympanicus, by bony accretion, slowly becomes the so-called tympanic bone, forming the lower anterior wall of the external, auditory canal, the membrana tympani is made to occupy a more nearly vertical position. But in the infant and very young child the membrana tympani is not only superficial, but nearly horizontal in position.

These anatomical facts render the infant's membrana and malleus, with the other ossicles, easily liable to injury from careless or excessive manipulation. If not injured by direct violence the membrana may become affected by an extension of disease from the meatus. Infants a few days old are often the subjects of a dermatititis in their short, cutaneous, auditory canal from rough washing at the hands of the monthly nurse. The discharge which soon sets in from the meatus, induces the nurse to further efforts at swabbing or wiping the ear, and thus not infrequently an inflammation in the external ear, an otitis externa acuta, is set up. From the proximity of the drum-membrane to the seat of this artificially excited disease, this important structure may be invaded, and perforation by external erosion occur. The middle ear then may be drawn into the inflammatory process, and the hearing impaired, perhaps permanently.

The infant's auditory canal and meatus do not require washing. The concha may be gently wiped out with a soft, damp cloth soon after birth, and even daily if the infant should be exposed to uncleanness, but in no case will the meatus auditorius externus require swabbing. The same may be said of the ears of all children and of adults. The superfluous ear-wax will fall, by a normal physiological process of extrusion, induced by the outward growth of the skin of the canal, from the meatus into the concha, from which it may be wiped by the already mentioned gentle method.

When the physician finds that his new-born patient is affected by a discharge from the meatus, which has occurred without preceding pain or any apparent cause, he should suspect the artificial and traumatic origin of the otorrhea. Inquiry will often confirm his suspicion that too much effort at cleansing the ear has brought about the disease.

Treatment.—The treatment, if the disease has not advanced far into the canal, will consist, first, in strenuously causing the nurse to desist from the irritating manipulation which has induced the dermatitis, and from all further washing of any kind until the discharge ceases. If the disease shall not have advanced beyond a slight eczema, the affected parts should then be dusted with a powder composed of equal parts of Hubbuc's oxide of zinc and starch, finely triturated. If the disease has assumed the nature of a true dermatitis, with purulent discharge and granulations, then, after the meatus is gently cleansed by the surgeon with absorbent cotton, a gentle insufflation of powdered boric acid, once daily, for a few days, will generally suffice to check the discharge and heal the affected parts.

In older children, those from two to ten years of age, a good deal of injury is often inflicted by excessive efforts at cleansing the ears by means of swabbing, picking, and roughly washing the auricle and the meatus. This injurious procedure has its origin in a false idea of cleanliness on the part of parents and nurses, who consider cerumen, dirt. The ear-wax is not dirt, because it is not excrementitious. It is placed by nature in the meatus as a watchman or doorkeeper, to prevent the intrusion of insects and of the fungus aspergillus. An insect cannot easily enter the auditory canal, the meatus of which is well smeared with cerumen, since the latter smothers it. Nor can the aspergillus flourish in the presence of cerumen, as the spores are caught in the wax and prevented from settling and growing upon the membrana tympani. Hence it is manifest that the ear should not be deprived of the normal coating of wax found in the undisturbed meatus. However, there exists a widespread prejudice in the laity in favor of swabbing the auditory canal "in order to cleanse the ear," as it is falsely termed. By this method of "cleansing the ear," the cuticle is abraded and the dermis excoriated. The epithelium thus scraped off, and the excoriation induced by the rough manipulation, are packed gradually further and further into the canal and down upon the drum membrane. This impaction, consisting of epithelium, exuviated débris, cerumen, lint, and other foreign matter from the wash-cloth, is moistened by a sero-purulent discharge from the walls of the canal, and also by the soapy water on the wash-cloth, sponge, or whatever form of swab or mop is used. The impacted mass increases in size with each effort at cleansing, and the cutaneous structures at the fundus of the canal, including the dermal surface of the membrana tympani, are macerated and irritated, and finally ulcerated. More or less ear-ache may now annoy the young patient, a slight discharge of sero-purulent matter may come from the meatus, the ear may become offensive in odor, and the hearing diminished by the mechanical obstruction of the macerating plug of epithelium, cerumen, pus, etc. Should the membrana tympani be perforated by external erosion, as not unfrequently happens, the middle ear may be affected by an extension of irritation through the perforation, and the hearing thus further impaired. Beneath the macerating mass just described granulations are invariably found. These may be seated near the membrana tympani, around the periphery or upon the membrane. In some instances, instead of numerous granulations, one, two, or three polypoid growths are found upon the walls of the auditory canal, or upon the membrana tympani itself. If upon the latter, the growth usually marks the seat of a perforation, but not invariably. The small polypus occurring in these cases of maceration of the fundus of the canal may be in the angle between the anterior wall of the auditory canal and the plane of the drum membrane. In such a case, the drum membrane may contain a perforation in its lower half, entirely free from any granulation or polypoid tissue.

Treatment.—After inspection of the external auditory canal has satisfied the physician that such an impacted mass has been gradually forced into the fundus of the canal, the first effort should be to remove it, and cleanse the ear of the accumulated dirt, by gentle syringing with water, to which a little castile-soap may be added if the mass seems very hard—not otherwise, and not until pure water has been tried. Of course, the attendants of the child must be made to desist from their swabbing efforts at the outset, and informed that their endeavors at so-called cleansing the ear have pushed in more than they have removed, and thus have at last made the ear the seat of an irritable accumulation of dirt.

After the removal of the obstructing mass from the fundus, if the walls of the fundus of the canal and the outer surface of the membrana are found to be macerated, excoriated, and granulating, insufflations of finely powdered boric acid should be made once daily for a few days, after the fundus of the canal is dried out by means of absorbent cotton if any fluid matter shall have re-accumulated there. If not, and the powder blown in at a previous visit remain *in situ*, quite dry, it should be let alone for a day or two longer, or until it becomes moist by matter from the ear. If it remain dry for several days the parts underneath have healed, and the ear may be declared well. The powder then should be removed by the injection of a syringeful of warm water into the auditory canal. The aspergillus sometimes, though very rarely, is found in the ears of children. A positive diagnosis of its presence in the canal can be made only by microscopic inspection of some of the suspected pieces of mycelium washed from the affected ear. If this parasitic fungus is found in the ear, insufflations of powdered boric acid, or of a powder composed of boric acid, sixteen parts, and chinoline salicylate, one part, will destroy the fungus and heal the inflammation of the fundus and of the membrana caused by its growth in the canal. Should the granulations alluded to not disappear under the dry treatment, but assume a large size, or become pedicellate, they may be snared off their attachment by the wire noose of the Blake-Wilde's polypus-snare, or some of its modifications. If the polypoid excrescences cannot be snared off, they may be destroyed by touching them with a minute quantity of chromic acid on a small cotton-dossil upon the cotton-holder. In this treatment no part of the ear must be touched excepting the granulation-tissue. In order to accomplish this, the application must be made under perfect illumination of the auditory canal by means of the forehead-mirror, thus leaving both hands of the operator free to work upon the ear—the left to hold the speculum, the right to convey the chromic acid to the diseased tissue, under perfect illumination. The granulation, or small, polypoid body, *and it only*, must then be painted with the chromic acid on the cotton-dossil.

Of course this application of a powerful escharotic will be followed by a slight slough, and perhaps a slight increase in discharge. But as the granulation tissue to be touched is small, the quantity of escharotic must be small, and the ensuing slough and increase of discharge will be correspondingly slight. After the application of this or any other escharotic, the fundus of the canal and the parts touched should be well covered with powdered boric acid, either alone or in combination with resorcin, oxide of zinc, or a similar disinfectant or mild astringent, and then let alone for a day or two, unless the discharge should be so copious as to wash out the powdered applications. In the latter event the ear must be cleansed daily and the insufflated remedies renewed. Insufflations of powders into the ear may be effected by means of a variety of blowers, but the writer prefers to introduce them into the ear by means of a blow-tube, consisting of a foot of black or red rubber tubing—not the white, which is too sulphurous and brittle—five mm. in diameter. In the distal end of such a tube a piece of coarse goose-quill two inches long may be inserted, by which the powder can be lifted up and conveyed to the speculum in the meatus. The proximal end of the rubber-tube constitutes the mouth-piece for the surgeon. Under good illumination by the forehead-mirror the quill-end can be aimed at the diseased fundus, and a gentle puff from the surgeon's mouth, through the tubing, will send the medicament over the affected surface. Enough powder to cover the fundus will be sufficient at each medication, unless from extensive disease on the walls of the auditory canal it should be desirable to fill the canal, when a larger charge, or several smaller ones, can be taken up in the quill end-piece and thrown into the fundus and the outer parts of the calibre of the canal. Should a fluid preparation for instillation into the diseased ear be desired, five or ten drops, once or twice daily, of the following mixture warmed will be found very satisfactory in cases of ulceration and granulation in the inner part of the auditory canal:

℞.—Liq. plumbi subacetatis, ♏xx.
Acidi acet. dilut., ♏vj.
Tinct. opii., ♏xx.
Aquæ, f℥j.
M.

Older children, from six to ten years of age, to whom their toilet is more or less intrusted, often become the subjects of an artificial eczema of the auricle and of the post-auricular region over the mastoid. The disease may be limited to the outer or anterior surface of the auricle, or to the posterior surface and the mastoid region, or all three parts may be simultaneously affected. Having been taught to wash their ears, *i.e.* their auricles, too sedulously with soap and water, or having been the passive victims of hard washing, they develop an eczema or even a dermatitis of the aforesaid portions of the auricle and its adjacent parts. Unfortunately, not understanding the nature of the "weeping" and the resultant crusts which form on the ear, they are inclined carefully to wash them off with soap and water, thus further abrading the skin, and increasing the disease. Once started on this vicious circle the disease and its erroneous management react upon each other and unless checked, either by the discomfort of the manipulation or by a word of caution from the family physician, a chronic dermatitis, with more or less thickening of the cutaneous tissues, ensues. The auricle and the post-auricular region become swollen, livid in color, and covered by crusts, and the hair, often placed behind or over the ear, according to the position of the most disease, in order to hide the disfiguration, becomes matted in the secretions from the sore, and when pulled from the eczematous spot irritates and increases the malady. Both ears are more likely to be affected than one, and this aural disease is most usually found in little girls, since they are more carefully watched and taught or induced to wash their ears more frequently than boys, and also because their hair being longer they are enabled to cover up therewith a cutaneous eruption at this point, and thus lead to agglutination between the hair and the affected organ, with the irritant results already named.

The eczematous disease, just described, may be entirely unconnected with any cutaneous or other affection of the auditory canal and middle ear, being purely a traumatic or artificial disease of external origin, and is not to be confounded with an eczematous disease of the concha and anterior aspect of the auricle, due to the irritant discharges which are allowed to accumulate on these parts during otorrhea in neglected children.

Treatment.—The first step towards a cure in this cutaneous disease of the ear is the fundamental injunction not to wash the affected parts. If these be covered with brownish or yellowish crusts, as they are very likely to be, the latter should be softened by means of sweet-oil, cosmoline or vaseline, and then gently removed, great care being taken not to further abrade or break the already excoriated, denuded and discharging surfaces beneath. Absolutely no soap must be applied to the eczematous ear, as it has a most irritant effect in this condition of the skin. After the crusts are removed and the affected parts laid bare, the latter should be dusted thoroughly with a powder consisting of equal parts of Hubbuc's oxide of zinc and powdered starch. The powder thus applied will stick to the affected surface by union with the secretions.

The covering thus formed should be allowed to remain as long as it will. If the discharge from the skin is not very great the powder thus applied may remain *in situ* several hours or even a day, when it will begin to fall off in flakes. The parts beneath, however, will then usually appear drier and less congested. If, when the case is first seen it should be in an acute stage, with attended smarting, burning, itching, and pain, black wash should be mopped upon the inflamed parts with a soft sponge or cloth, and the greyish deposit from this application allowed to remain, as it forms an emollient protection to the denuded skin. As the acute symptoms subside the discharging surface is best treated by the aforesaid powder of oxide of zinc and starch. Should the integumentary tissues appear infiltrated and thickened, after the discharging surfaces have begun to heal, it may be necessary to stimulate absorption in the skin-structures by rubbing well, but gently, into the affected skin once or twice daily a small piece, the size of a pea or small bean, of the following ointments:

℞.—Hydrarg. ox. rubri, gr. viij.
Vaselini, ℥j.

or

℞.—Hydrarg. ox. flav., gr. xvj.
Vaselini, ℥j.

Since this affection of the auricle, like the affection of the concha and auditory canal already alluded to, is of traumatic origin, and therefore purely local, no constitutional treatment is specially demanded on its account. If, however, the patient appears debilitated from any cause the constitutional treatment must be conducted on general principles. In all cases of eczematous eruptions, no matter what their origin, the cure will be hastened by regulation of the diet. In all such cases the physician must assure himself that the patient is getting only the most nutritious and digestible food, in the most appropriate quantity and manner.

SPRING CONJUNCTIVITIS.

BY CHARLES J. KIPP, M.D., NEWARK, NEW JERSEY.

Although this disease is by no means rare, there are, I venture to say, but few general practitioners who have ever heard of it. And this is not at all surprising in view of the fact that in very few of the text-books on the diseases of the eye in the English language this affection is mentioned. This is to be regretted the more, as this is a disease of childhood, and the patients suffering from it, especially in the earliest stage, are more likely to fall into the hands of a general practitioner than into those of the specialist. To supply this omission in the text-books is the purpose of this paper.

This disease is not a new one, but our knowledge of its clinical history is of recent date. It was first described as a distinct species of conjunctival disease by Professor Saemisch, of Bonn,* in 1872, who also made known to us the fact of its typical recurrence every spring for a number of years. He gave to it the name of spring catarrh of the conjunctiva. Desmarres,† Arlt,‡ v. Graefe,§ and others, had previously described this disease as an unusual form of phlyctenular ophthalmia. Since the publication of Saemisch's article, the most valuable contribution to our knowledge of this disease has been made by Horner.‖ Burnett,¶ of Washington, D. C., who, so far as I know, is the only American or English physician who has written on this subject, has given us a very excellent description of this disease.

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* Graefe and Saemisch: *Handbuch d. Gesammten Augenheilkunde*, Bd., IV., p. 25.

† *Traité des Maladies des Yeux*, II., p. 184, 1854.

‡ *Ueber die Bindehaut. Prager Vierteljahrsschrift*, Bd. IV., p. 73.

§ Hirschberg. A. v. Graefe's *Klinische Vorträge*, I., p. 47. Berlin, 1871.

‖ Vetsch: *Ueber den Frühjahrs Katarrh d. Conjunctiva. Dissertation.* Zürich 1879. Horner: *Die Krankheiten des Auges im Kindesalter. Handbuch d. Kinderkrankheiten*, von C. Gerhardt, V. 2, p. 300, 1879.

¶ *Archives of Ophthalmology*, Vol. X., p. 414.

Various other names have been given to this disease by different authors. Desmarres called it "hypertrophie perikeratitique de la conjunctive;" V. Graefe describes it as a gelatinous infiltration of the limbus conjunctivae; Hirschberg calls it "phlyctenula pallida," and Burnett thinks that the name "circum-corneal hypertrophy of the conjunctiva" conveys a clearer idea of the disease and its pathology than that given it by our continental confrères. Schweigger * calls it "summer conjunctivitis."

Spring conjunctivitis belongs among the diseases of children. It very rarely occurs in persons over sixteen years of age. In every one of the small number of adults that I have seen with this disease, the first attack had occurred before they reached puberty. According to Horner,† boys are almost exclusively attacked by this disease, while Burnett seems to think that the larger contingent comes from the female side. Among the forty-two patients that I have seen, twenty-six were males and sixteen females.

One of the most characteristic features of this disease is that it commences in the spring or early summer months, continues during the hot weather, and either entirely disappears in the fall or improves so much that the patient is not aware of its continued existence, and RETURNS WITH GREAT REGULARITY EVERY SPRING FOR A SERIES OF YEARS.

In most of my cases the severity of the attack diminished from year to year, while in others a mild attack was sometimes followed by a rather sharp one. Cases have been observed in which relapses occurred annually for thirteen years, but in most cases the disease disappears completely after four or five relapses.

The attack usually begins with intolerance of light, increased lachrymation, a burning or smarting pain in the eye, an almost intolerable itching of the eyelids, and a very slight conjunctival secretion. The latter is, however, not unfrequently entirely absent, and is rarely sufficient to cause a gumming together of the edges of the lids during sleep. In nearly all cases both eyes are affected at the same time, although not always in the same degree.

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* *Handbuch der Augenheilkunde*, 4th edition, 1880.

† *Op. Cit.*, p. 300.

Simultaneously with the appearance of these symptoms, the eyes undergo the following changes: The conjunctiva of the eyeball, and espesially that part of it which is exposed in the palpebral fissure, becomes somewhat injected and very slightly edematous; it loses its transparency, becomes dull, and somewhat thickened, and assumes a faint, dirty yellowish tint. *The limbus conjunctivae (the corneal border of the conjunctiva) becomes opaque, thicker and broader, and in different portions of it appear solid, nodular, slightly transparent protuberances of a reddish-gray color.* These protuberances may form a complete ring around the cornea, but usually they occupy only the nasal and the temporal margin of this membrane. They are often more than a mm. high, and from one to three mm. broad. They always encroach upon the cornea, and thus diminish its transparent area. Their inner (corneal) margin is always sharply defined, but their outer (scleral) edge gradually passes into the scleral conjunctiva. Occasionally there are imbedded in the surface of the protuberances very small, hard, white bodies. The protuberances are of firm consistency, and are immovably attached to the underlying structures. In nearly all cases, small blood-vessels are seen to enter into them from the conjunctiva. *The protuberances here described are the most conspicuous as well as the most distinctive symptom of this disease.**

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* In addition to the changes in the ocular conjunctiva here described, Burnett (*Op. Cit.*, p. 416) has observed in the negro a brownish discoloration of the conjunctival tissue, most intense at the scleral base of the circum-corneal mass, and gradually fading away toward the equator of the ball. The discoloration is not regular in its distribution, but appears to consist of a collection of small deposits of brownish pigment. These deposits are sometimes collected in rather large masses, particularly near the base of the elevation, but toward the equator they appear as small, brownish specks in the dull and succulent conjunctiva. It is not known, whether this discoloration disappears with the subsidence of the affection or not.

I have seen this disease only twice in the negro, and in neither of these cases could I discover such collections of brownish pigment; although I examined the eyes very carefully. A faint, yellowish discoloration of the ocular conjunctiva was, however, present in these cases, as well as in most of the white children. The discoloration disappeared entirely with the disease.

Besides these very conspicuous changes in the ocular conjunctiva, *this disease produces also characteristic alterations in the conjunctiva of the lids.* The one most frequently seen is a thickening of the epithelial layers which causes the conjunctiva to be pale and dull and gives it the appearance as if it were covered with a thin layer of milk. Although present in both the upper and the lower lid it is generally most marked on the latter. Vetsch, who first described this appearance of the conjunctiva of the lids, regards it as pathognomonic, and in this opinion I concur. In the majority of the cases of this disease that I have seen no other change occurred in the conjunctiva of the lids during the whole course of the disease. In the others I have seen after several attacks of this disease on the conjunctiva of the tarsus, particularly of the upper lid, a varying number of hard, pale, round, and flat excrescences, measuring from one half to two mm. in diameter. In some cases the conjunctiva was so thickly covered with them as to resemble a minature cobble-stone pavement; in others there were not more than half a dozen. The larger of these excrescences have not unfrequently a thin pedicle and resemble mushrooms. In most cases they are, however, scarcely larger than a meal grain. The upper and lower retrotarsal folds are, as a rule, free from these excrescences, and are neither swollen nor injected. The cornea inside of the enlarged limbus conjunctivae remained entirely clear throughout the whole course of the disease in all of my cases.

As before stated, the changes in the conjunctiva here described are developed in the spring, continue during the summer, and, as a rule, disappear entirely in the fall. Cases are, however, now and then met with in which some of these changes, especially those in the conjunctiva of the lids, do not entirely subside, but persist in a moderate degree during the entire winter, without, however, causing the patients much annoyance. Of the subjective symptoms, the intolerance of light and the itching were the only ones of which my patients complained much after the second or third week of the attack. In nearly all of the cases that have been under my observation the disease disappeared entirely and permanently after the fourth or fifth relapse. In the others the disease still continues in a mild degree.

In the great majority of the cases in which the disease was cured neither the conjunctiva nor the cornea were apparently damaged. In a few an opacity of the periphery of the cornea, not unlike the arcus senilis, remains. A permanent widening of the limbus conjunctiva has been observed by others. In none of the cases, so far as I know, has this disease ever caused an impairment of vision. A very slight drooping of the upper lids is, however, sometimes observed for many years after the subsidence of the disease.

The morbid anatomy of spring conjunctivitis has been studied especially by Horner, who found that the changes were due to a chronic proliferation of the epithelium and hypertrophy of the connective tissue of the conjunctiva. The vascularity and the round cell infiltration in the conjunctiva of the globe varied according to the stage of the disease. The infiltration of round cells was, however, at no time very abundant. The excrescences on the conjunctiva of the lids showed also proliferation of the epithelium and hypertrophy of the connective tissue, but contained but few vessels. Sections of circum-coreal protuberances which I excised from two individuals showed precisely the appearances described by Horner. The epithelial layer was increased in thickness to more than three times the normal, and from it extended solid cylinders, some of which gave off branches, into the stroma. The cylinders were clearly defined, and were not unlike those seen in cases of epithelioma of the conjunctiva. The stroma itself was very vascular and rich in round cells, of which groups were seen in many places, mostly in the neighborhood of large vessels. Horner calls attention to the close anatomical resemblance of the disease to Willan's psoriasis guttata.

Of the causes of this disease we have no knowledge. It is certainly not connected with any general disease, for in all of the cases that I have seen, as well as in those observed by others, the patients were in average fair health and free from a diathesis. I may state here, however, that a considerable number of my cases were afflicted with an acute naso-pharyngeal catarrh at the time the eye disease made its appearance. To me it seems not improbable that this disease is caused by some organic aërial substance coming in contact with the conjunctiva of persons with a peculiar idiosyncrasy. Perhaps it is not unlike the agents which are supposed to produce rose colds, hay fever, and similar affections. Whatever the cause of the disease may be, it is certain that it exists everywhere, for I have seen this disease in children living in large and airy houses in the country, as well as in children living in crowded tenement houses of large cities. The disease seems to be about as prevalent here as on the continent of Europe.

The diagnosis of summer conjunctivitis is usually quite easy. The only disease for which it is at all likely to be mistaken is phlyctenular marginal keratitis, and from this it is readily distinguished by the much greater dimensions and the grayish red color of the protuberances, and also by the peculiar appearance of the conjunctiva of the lids, which I have never seen in any other disease of this membrane. The apex of the phlyctenulae is, moreover, always ulcerated, while the surface of the circum-corneal prominences is always smooth although irrregular. In summer conjunctivitis no efflorescences are ever seen on the cornea, while in phlyctenular ophthalmia this is the rule rather than the exception. Cases of summer conjunctivitis in which the conjunctiva of the lids is covered with the excrescences previously described, while the circum-corneal prominences are but slightly developed, might possibly be confounded with granular conjunctivitis. The peculiar pinkish tint of the conjunctiva and the total absence of follicles will, however, make it easy to discriminate this disease from trachoma.

With regard to the treatment of this affection, all writers on this subject are agreed as to our inability to arrest the disease. Most of them regard the remedies usually employed in simple catarrhal conjunctivitis as hurtful, and recommend for local application salves of amylo-glycerine or vaseline containing three per cent. of the acetate of lead, one per cent. of sulphate of copper, or four per cent. of ammoniated mercury. In my own hands the yellow oxide of mercury ointment (ten grains to the ounce of vaseline) has proved most useful. Of this salve a piece of about the size of a pea should be put into the conjunctival sac once or twice daily, according to the amount of irritation produced by it. It is advisable to wash out the salve with cool water about five minutes after its application, and to apply cold compresses to the lids for an hour or more, if much pain is produced by the application. One application daily will suffice in most cases to remove the intolerance of light and the itching of the lids in a very short time and enable the patient to return to school. Although no specific, this remedy has undoubtedly the power to shorten the attacks in many cases. I have never seen any injurious effect from it, even in cases in which it was used daily for many months. In the very beginning of the attack it is, perhaps, best not to make any other application than cold water to the eyes, although I have seen the irritability of the eye much diminished by the application of the yellow oxide even in this stage. If the circum-corneal prominences are very large they may be excised, a proceeding which Horner thinks has a beneficial effect in the disease. The excrescences on the tarsal conjunctiva I have always cut off if they had a distinct pedicel.

Blue or smoked protective glasses should only be worn if the photophobia is very great, but should be discarded as soon as this has passed away. The patients should, of course, if possible, sleep in large, airy rooms and should be as much as possible out of doors in the day time. Work by artificial light should be prohibited. I have not found it necessary to prescribe tonics in any of my cases; they should be given, however, whenever the state of the general health indicates their use. Wecker* has recommended the internal use of the arsenite of soda in doses of one-sixtieth of a grain three times daily, and Burnett, who has used the remedy, thinks that his patients have been benefitted by it.

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* Ocular Therapeutics; translated by Forbes, page 78. London, 1879.

Clinical Lectures.

ACUTE INFLAMMATION OF THE MIDDLE EAR IN INFANCY.

BY ALVIN A. HUBBELL, M.D.,

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GENTLEMEN:—In the patient I bring before you at this time there is presented an illustration of a class of diseases of much importance to the general practitioner of medicine. They are diseases not always trifling in character, not necessarily obscure, not difficult to treat. They are very often most distressing, sometimes fatal, and, if not fatal, may lead to consequences most sad and embarassing in after-life. They are, moreover, particularly frequent in childhood. Indeed, they are so much more common at this period of life than at any other, that I am inclined to believe that my colleague, Professor Ingraham, to whom most worthily belongs the honor of teaching you upon the subject of diseases of children, should discuss the topic which I am about to consider.

Baby H., a little boy six weeks old, has for four or five days, according to the statement of his mother, been feverish, restless, wakeful, fretful, crying much and cannot be pacified, and has not nursed well. At times he has given expression to severe pain. He has not vomited, the bowels are slightly constipated, and the urinary secretion seems somewhat diminished and highly colored.

On making a thorough examination of the limbs and of all the organs of the trunk, nothing abnormal can be detected. There remains the head to be examined. Externally the eyes, nose, face and scalp appear healthy, and so do the mouth, throat and nasal cavities. So far, then, there are no objective symptoms of disease. What then is the cause of his sufferings? He cannot talk, he is not old enough to localize by movements with his hands, or otherwise, the seat of the distress. We cannot, therefore, learn what subjective symptoms are present,—we fail to locate the child's trouble. Let me say that many physicians are too apt to stop here, and hastily locate the disease in the brain or its membranes, or to attribute the pain to colic. Before doing this ourselves, however, let us remember that there is one organ that we have not interrogated and which should not be passed by without notice. That organ is the ear. This, when diseased, is often subject to the most extreme and agonizing pain, and it is therefore proper to examine it; indeed, I should deem it most improper not to do so, and ascertain whether or not it shows symptoms of disease. Should it appear healthy, it might then be necessary to look for cerebral disturbance, since by exclusion we would be driven, almost, to this point.

The auricle and external meatus do not appear diseased, and pressure upon them does not produce expressions of pain. To examine the condition of the deeper parts with ease and thoroughness, an ear-mirror, or in its absence an ordinary hand-mirror to be found in almost every house, and an ear-speculum of a size corresponding to that of the external meatus, are necessary. You know that the healthy membrana tympani, or "drum-membrane," when seen by light reflected upon it through the speculum by the mirror, has a sort of pearly color, has a soft lustre, and upon its surface is seen a bright shining spot somewhat cone-shaped, the point of the cone being near the centre, and the base at the periphery of the membrane at its antero-inferior part. Often there can be seen through it outlines of portions of two of the ossicles of the ear, the incus and malleus. The short process and handle of the malleus can almost always be recognized, the former projecting somewhat into the auditory canal toward the observer, the latter lying against the inner surface of the membrane, and directed from the short process downwards and backwards to near the centre. At the end of the malleus is the depression called the umbo; and here the cone or pyramid of light forms with the handle of the malleus an obtuse angle opening anteriorly.

Remembering these normal appearances, let us place this child with the ear we wish to examine from the window (a lamp in a darkened room would answer well for illumination), and reflect the light with the mirror upon the drum-membrane through the speculum so introduced into the auditory canal as to gently straighten its course. In the left ear we find the membrane has lost both its brightness and the cone of light, and around its periphery, and along the handle of the malleus, there is deep redness with many blood-vessels ramifying upon its surface, particularly in the upper part. It is not easy to see through this membrane, and it is therefore difficult to recognize any exudation that may possibly exist in the tympanic cavity. But it is safe, I think, to assume its presence, since the hyperemia and loss of lustre indicate an inflammation more or less severe of the mucous membrane beyond, and since an inflammation of a mucous membrane is soon attended with exudation or hypersecretion. We can, then, feel justified in saying that this left ear has an inflammation of its middle portion, the tympanic cavity, and that this cavity contains products, either mucus or pus, or both, the result of such inflammation.

A similar examination of the right ear shows peripheral hyperemia of the membrana tympani, while its central and principal portions look like wet, dirty-yellowish parchment, with raised spots on its surface appearing like vessicles. The membrane, also, at its upper and posterior part bulges distinctly outward. Here, too, is inflammation of the mucous membrane lining the tympanic cavity, but it is much further advanced than on the left side. If left to nature for a day or two longer, the membrana tympani would probably become perforated at some point and a purulent discharge from the external meatus would follow.

Could this child talk, he would undoubtedly tell us of a stuffed or stopped-up feeling and of noises in his ears, and he would complain of deafness more or less pronounced, possibly of vertigo, together with the extreme pain.

Having now in our investigations discovered a painful and severe disease of the ears, shall we rest our diagnosis here? I think it will be well to extend our diagnostic inquiries further, and determine the probability of disease of the brain or its meninges. In the first place, the principal and most frequent disease of the brain that might in any way be suspected, having a similar train of symptoms, is simple or cerebro-spinal meningitis. Now, if you will for the moment recall the symptoms of meningitis, you will see that they are not those in this case. In meningitis in the acute form, there is high fever, often vomiting (we sometimes get vomiting in otitis), and much restlessness. The eyes appear injected, there is sensitiveness to light and sound, and instead of much crying, as in otitis, there is generally more or less stupor. The nervous system may show other disturbances, such as convulsive movements, opisthotonos, and so forth. The pupils of the eyes later in the disease may not be alike, and may be either contracted or dilated, and there may also be noticed, at times, momentary strabismus. We are safe, then, in eliminating from this case the most probable brain-disease which could in any manner be supposed to exist. We have, moreover, sufficient ground in the objective appearances of the ears and in the character of the distress manifested by the child for making a positive diagnosis of inflammation of the middle ear or tympanic cavity,—acute otitis media.

There may be cases where the ear-trouble may simulate most closely symptoms of brain-inflammation. There may be found the stupor, twitchings of the muscles, sensitiveness to light and sound, and even convulsions.

These would ordinarily point to the brain as the seat of the child's sufferings; but these must not preclude a thorough examination of the ear, and must not entirely exclude an otitis, as they may be wholly reflex in character, no actual brain-disease existing. Again, an otitis may exist for a time, and then extend to the brain, producing an actual meningitis, phlebitis or abscess. Many cases of this kind have been reported. Such an occurrence will not appear improbable when it is borne in mind that in adults, even, only a thin partition of bone, sometimes only membrane, intervenes between the tympanic cavity and the meninges of the brain; while in children the dura mater and tympanic mucous membrane are in much closer relationship. Indeed, in early life there is a direct connection between these two membranes through the petroso-squamosa suture running along the roof of the tympanum and mastoid antrum, which at this time of life is not closed. Through this fissure the dura mater gives off a band which extends directly into the tympanic cavity. How easily, then, can an inflammatory process pass through this tissue and this comparatively open space to the dura mater and brain! The only wonder is that it does not take place oftener.

This danger of brain-disease, as a sequel to an otitis, only adds still greater emphasis to the importance of an early examination of the ear and an early diagnosis. But why should the attendant so often mistake otitis for "brain-trouble" or "wind colic," until nature gives relief to the patient by an evacuation of the discharge through the external meatus and a spontaneous perforation of the drum-membrane, by which, also, he is informed of his error, and of the true source of the infant's sufferings? Simply because he does not examine an organ which should never be forgotten when a child is suffering from pain and distress which cannot be clearly accounted for. The means of examination are simple and should always be resorted to, and with the slightest experience the physician can detect and properly interpret the appearances which an otitis, if existing, may present.

Again, we should not only remember that the middle ear may be affected in infancy with disease, but that it is likely to be very frequently affected; indeed, that inflammation of this organ is particularly an infantile disease. You will understand that this may be true, when you consider that during fetal life the tympanic cavity contains no air, but is filled with a gelatinous mass which is regarded by Von Trœltsch as a proliferation of the mucous lining of the inner wall of the tympanum. At birth, in the acts of breathing, crying, and swallowing, the Eustachian tube is opened and air enters the tympanic cavity through it. From the moment air enters, a rapid degeneration of the gelatinous substance filling it begins to take place, and it is soon converted into a thickish, yellowish-green fluid. This fluid, according to eminent authorities, contains pus-corpuscles, together with other histological elements. Extended investigations have shown that the tympanic cavities of the majority of young children from a few days to several weeks old contain this pus-like substance. Whether this fluid is a physiological or pathological product, is not fully settled; although the most recent investigators regard it as pathological. Whichever it may be, it is certain that its presence is exceedingly common.

I have before me some figures which will indicate the frequency with which it is met in post-mortem examinations of children who showed no signs of ear-disease while living.

Koppen examined 24 new-born children, the oldest being twenty-five days old. In 6 the tympanic cavity was empty, in 18 it contained fluid—in four of which it was pus.

Von Trœltsch examined 47 petrous bones from children varying in age from three days to one year. The middle ear was normal in 18, and 29 showed in different degrees the appearances of a purulent, rarely a mucous, catarrh.

Schwartze found two out of every five tympanic cavities filled with pus.

Wreden found in 80 cases of children from twelve hours to fourteen months old—the majority from three to fourteen days old—that purulent catarrh existed in 36, simple mucous catarrh in 30, while only 14 were normal.

Hofmann found in 24 cases of children from thirty-two hours to four weeks old that the tympanic cavity was filled with pus in 7, while in the 17 it was normal.

Kutscharianz, who has made the greatest number of examinations, records 230 cases in children from a few days to seven months old. Of these, the tympana of 150 were filled with yellowish-green pus, 50 showed slight or intense catarrhal inflammation, while only 30 were normal.

The result of the above examinations shows that an average of only one in every five tympanic cavities is normal in children of various ages from a few hours to a year old. With such a common presence of pus or fluid within the tympanic cavity of the child, not, perhaps, as the result of inflammation, but of a degeneration of embryonic tissue, and, possibly, of an arrest of the changes and processes by which it is normally disposed of, the parts being, undoubtedly, most susceptible to trifling influences during such a condition of active metamorphosis, disease of its lining membrane must be of frequent occurrence.

But this predisposition which the presence of fluid and pus in the tympanum creates, is not the only one that exposes the ears of children to frequent disease. The narrow, slit-like opening of the Eustachian tube of the child, together with the small size of the naso-pharyngeal space, with which its mucous membrane is continuous, renders this passage extremely liable to be closed by every little swelling of the parts. Such closure prevents the secretions which form in the upper part of the tube from passing down and out into the throat, as when it is normal and patulous. This blocking up of the tube by tumefaction and the secretions interferes with the entrance of air into the tympanum, which naturally takes place during each act of swallowing, yawning, crying, etc. The air in the cavity before the obstruction is formed is soon absorbed, producing a sort of vacuum which draws the drum-membrane inwards with an extra pressure bearing upon the ossicles, and which, also, by a kind of "suction," causes the lining membrane to become congested and edematous and to throw out a serous fluid into the space which should be occupied only by air, and ending, finally, in a true inflammation.

Added to the peculiarity of conformation which thus, during throat affections, makes the child's ear more subject to disease than that of the adult, there is the great susceptibility of the naso-pharynx to deleterious influences and atmospheric changes, due to the more strongly developed elements entering into its mucous membrane and gland-structures.

Again, the diseases peculiar to childhood, particularly the exanthemata and other affections involving the throat and respiratory organs, further expose the child to inflammation of the middle ear, the danger, however, being increased by those peculiarities of structure and conformation just referred to.

The child, then, is especially predisposed to middle-ear disease, first, by the peculiar condition of the tympanum so often found at birth, and which may continue for days, weeks, and even months after birth; second, by the form of the Eustachian tube and its mouth; third, by the small size of the naso-pharyngeal space; fourth, by the greater supply at this age of blood-vessels and glandular tissue to the naso-pharynx, rendering it easily susceptible to deleterious influences; fifth, by the tendency of throat affections to extend to the ear; sixth, by the frequency in childhood of exanthematous and other diseases which involve the throat and nose. With such a predisposition as this, do you wonder that ear-diseases are so common in childhood? Does not this organ demand great solicitude and require careful watching during these early years of life?

Let us return to our patient. In the left tympanum the inflammation is not far advanced. In the right there is evidently a purulent accumulation, since the membrana tympani looks soggy and softened. It also bulges outward, particularly at its upper and posterior part.

What, let us inquire, might be the course of this otitis, if left undisturbed by treatment? In the left ear the inflammation might subside without progressing much further; or, on the other hand, it might advance to suppuration and pursue the course usually incident to such cases. In the right ear suppuration has already taken place, and the most probable course at this stage would be perforation of the membrana tympani at almost any point, and evacuation of the accumulated secretions through the external meatus, with a relief of the pain and distress of that ear. The discharge might continue for a brief or long period of time, according to the circumstances attending the case. Another and not as favorable course might be taken, by the inflammatory action extending to the brain and its membranes, and developing a fatal meningitis or abscess. Or the mastoid process might become affected, leading to caries, necrosis, facial paralysis, or, in extreme cases, to an extension of the inflammatory process to the walls of the lateral sinus, which lie so near, with a consequent phlebitis, embolism, thrombosis or pyemia.

Although such sad results are not very frequent, they are sufficiently so to place the physician always upon his guard in affections of the ear. Even when the progress of otitis is not serious and dangerous to life, the pathological changes which may take place in the ear have a most important relation to the enjoyment of life in after-years, whether the case advance to suppuration or not. If suppuration supervene, many parts of the ear may be destroyed, the discharge may be very chronic and offensive, and lead to the development of polypi, exostoses, and so forth; and without suppuration the changes that may take place within the middle ear and Eustachian tube are very great and detrimental to the function of the organ. Whatever the pathological processes and changes may be that follow an otitis, the details of which I cannot enter into, the loss of hearing, which to a greater or less extent attends them, is a calamity leading to great sadness and embarassment, as well as deprivations, in after-life.

Thus you see, gentlemen, the lesson continually forced upon us that an otitis should never be neglected or overlooked.

With an early diagnosis, and even at the stage of the disease seen in the case before us, we may expect from proper treatment a brief duration of it and an excellent cure.

In the treatment of otitis media we have but to apply the general principles of surgical therapeutics, the methods being adapted to the peculiarities of the structure of the organ affected. First, those general measures should be pursued which are suited to all inflammatory processes. The excretory organs should be kept active. The skin should be subjected to frequent warm bathing and frictions, and the bowels should be kept open with mild laxatives. Rest should be secured by anodynes, if necessary, suited to the age and condition of the patient. For feverishness, and to check the inflammatory process, aconite in small and frequently repeated doses I regard as most potent. Gelsemium and pulsatilla have been recommended by Dr. Sexton, of New York, but I have failed to see any beneficial results accrüe from their administration. As an anti-suppurative remedy, I place much confidence in small and largely diluted doses of calcium sulphide, using sugar of milk as the diluent. The patient should, during treatment, be placed in apartments with an equable and warm temperature. Second, the local treatment must be suited to the peculiarities of the parts, and directed toward the arrest of the inflammation, the relief of pain, and the removal of secretions. For the arrest of the inflammation leeches or some other method of local blood-letting are advised by excellent authorities; but in very young children I would hesitate to bleed. Blisters have also been recommended, applied over the mastoid, but I would not use them in infancy. The local application of heat and moisture are usually most soothing and beneficial. Warm fomentations, warm steam sprays, warm irrigations to the external auditory canal by means of a syphon-arrangement, may each be used with comfort and benefit, and in conjunction with them, perhaps, some anodyne may be locally and cautiously applied. Anodyne vapors and sprays can also be introduced into the auditory canal for the relief of pain. The secretions, which are almost always present in the tympanic cavity, should have vent in some way. The Eustachian tube is the natural outlet and may be ample, if it can be kept free from obstruction. To this end it should, so far as possible, be relieved of any swelling or disease at its pharyngeal mouth by suitable remedies applied to the nose and throat, according to the peculiar condition that may be present. Its passage should be kept open by occasional inflations, using an air-bag, or blowing with the mouth through a rubber tube introduced into one nostril, the other being closed, while the child is crying. The details of these methods of inflation I need not weary you with, since you are already familiar with them. Keeping the Eustachian tube open in this way facilitates the passage of the tympanic secretions through it, and the inflation prevents, also, the structures of the ear from assuming an abnormal position or relation.

Should the secretions fail to pass off through the Eustachian tube and continue to accumulate in the tympanic cavity and press upon the membrana tympani, no hesitation should be felt in making an incision through this membrane, and thus preventing further destruction of tissue, relieving the pain, and, possibly, saving the life of the patient. The incision should, as a rule, be made at the posterior lower part of the membrane, and one-eight to one-sixth inch in length. It is most convenient to use a knife made for the purpose, and the operation should be done under clear illumination with the mirror and speculum. After the tympanic cavity is thus opened and vent given to the secretions, the inflations already referred to should be continued so as to force them out through the incision into the auditory canal, from whence they should be carefully and frequently removed with the syringe and warm water, or with absorbent cotton. After the auditory canal has thus been cleansed, pulverized boracic acid should be blown into the canal or introduced in some way against the membrana tympani to prevent fetor and promote healing.

These general outlines of treatment will serve as a guide in the majority of cases, and will suggest measures and remedies which will usually bring the little patient to a complete recovery and full restoration of hearing. The earlier, however, treatment is begun, the easier and more surely is the result obtained.

To make an application of these principles to the patient before us, we will see, first, that the child is placed in warm apartments where there are no drafts or currents of cold air. We will then order a warm bath to be given for fifteen or twenty minutes twice a day. Hot fomentations may be used over the right ear and kept constantly applied. The bowels may be opened with a dose of castor-oil, or, what is better for the babies, sweet-oil. In addition, we will give small and frequently repeated doses of aconite, and small doses four times a day of sulphide of calcium largely diluted with sugar of milk. We will also inflate the tympanic cavities with the mouth and rubber tube, or with Politzer's air-bag, hoping thus to keep the Eustachian tube open and the structures of the middle ear in their proper relation, and also to relieve the tympanum of its accumulated secretions through the Eustachian tube. Should the inflations fail to accomplish their object, it will be necessary within twenty-four or forty-eight hours to incise the drum-membrane as already indicated, and then to follow with the inflations, cleansing measures and the application of boracic acid powder. With the proper treatment thus pursued we shall expect this case to rapidly recover. What we can do for this case we can expect to do for all cases of which this is a typical representation.

Clinical Memoranda.

A CHERRY-PIT IN THE EAR OF A CHILD.

BY DAVID WEBSTER, M.D., NEW YORK.

On Thursday, July 24, 1884, at 11 A. M., a girl, nine years of age, while engaged in a frolic, had a cherry-pit blown into her right ear from the mouth of an older sister, with whom she was playing. Half an hour later, she appeared at the office of the family physician, who happened to be absent. She was then taken to the office of another doctor in the same village, who tried to remove the foreign body with a hair-pin, and failed. At one o'clock the same day she was taken again to the family physician, who tried to remove the pit with a small dissecting forceps. The tenderness by that time was very great, and the child had become so intolerant of manipulation that his effort was very short. He therefore sent the child away, advising delay. Nothing more was done to the ear until Sunday, August 3d, when the doctor went to the house and tried syringing for half an hour. Not succeeding, he put the child under ether, and tried again to remove the pit with forceps; but as he found he could not readily grasp it, he "gave it up," and on the following day, August 4th, he brought the child to me.

Upon examination, I found the auditory canal red, swollen, and sensitive, at its inner third. The swelling seemed to diminish the lumen of the canal by about one-half. The extremity of the canal was blocked up by a reddish mass, which was hard to the touch of the probe, and insensitive. From the history, I had no doubt that this was the cherry-pit. The hearing power of the ear was reduced to 2-60, as measured by my watch. The child had suffered pain only during, and immediately subsequent to, attempts to remove the foreign body.

The question now arose as to what would be the best course to pursue. It was evident that it would be extremely difficult to remove a hard, unyielding body like a cherry-pit through a passage having a diameter much smaller than its own. Any effectual attempt to do so would necessarily involve a very considerable amount of violence to the parts. Therefore, as the symptoms were not urgent, I thought it would be wiser to delay any operative interference until the swelling of the walls of the canal had subsided. I advised that the ear be douched with warm water thrice daily by means of the fountain syringe for a week, when the child should be brought to me again, and then, if the conditions were favorable, I would attempt the removal of the foreign body. About a week later, instead of seeing the patient again, I was gratified by receiving a letter from her family physician, in which he stated that on Friday, August 8th, after having douched the ear thrice daily, as advised, for three days, the cherry-pit came out while the douche was being used.

It is probable that in this case the foreign body might easily have been removed in the first place by a judicious use of the syringe. It is not improbable that every attempt at its removal by means of the hair-pin and the forceps, only lodged it deeper in the canal, and irritated the contiguous parts, thus helping to increase the swelling of the walls of the passage, already inclined to resent the presence of a foreign body.

I have not seen the patient since, but her physician, to whose kindness I am indebted for so complete a history of the case, informs me that the hearing of that ear is still considerably impaired.

OPHTHALMIA NEONATORUM.

BY W. CHEATHAM, M.D.,

Lecturer on Diseases of the Eye, Ear, and Throat, University of Louisville.

Ophthalmia of the new-born furnishes to our institutions for the blind nearly forty per cent. of their inmates. What else could I say that would better indicate the importance of the proper management of this disease. When properly managed, it is about as harmful as any disease of the eye with which we have to deal.

I shall not attempt to go into the pathology of this disease, nor into the long list of treatments of by-gone days, but give what I consider the most satisfactory method of controlling the disease at present.

First, as to preventatives:

In such instances where women have borne several children affected with this disease, or where many cases occur in lying-in wards, nothing gives as good a result as a two per cent. solution of the nitrate of silver, dropped into the eyes once every two hours for two or three times after the eyes have been thoroughly cleansed. Just previous to the birth of the child the mother's vagina should be washed out well with some alkaline solution.

Suppose a little one, two or three days old, has some difficulty in opening its eyelids, on account of their being glued or matted together by secretions from the conjunctiva, or a little matter shows in the inner corner of the eyes after a short sleep. Unless attended to, this increases rapidly; muco-pus begins to flow freely; lids begin to swell; child restless; probably one eye is involved at a time. Now we have a well-marked case of ophthalmia neonatorum.

The first indication is cleanliness. Don't use a syringe, a sponge, or anything that cannot be thrown away after cleansing such eyes. The best means is soft bits of linen;

next best is absorbent cotton. The following is the method I pursue: First, wipe away all secretions found externally, and that can be gotten out by gentle manipulation of the lids. I then put in the eyes five or six drops of the following solution:

℞—Acid tannic, ʒss;
Glycerine, ʒi;
Aqua dist., ℥i.

This I use mainly as a cleanser. It, if managed rightly, will get into the cul-de-sacs, and (I suppose) coagulates the muco-pus so that it comes out in long strings; sometimes as if you were unwinding a spool of thread. These can be removed by twisting small particles of absorbent cotton on a match and winding these threads of coagulated matter around it. Now, a little warm water may be run into the eyes, to remove any excess of the solution used. I now evert both lids, and having two matches with cotton twisted on them, one in salt water, a tea-spoonful of salt to half a pint of water, and one in argent. nitrate, gr. x-xv-xx-xxx or xl, or whatever strength I think the case needs, to aqua dist., ℥i. I apply the silver solution to both lids, and wash off immediately with the salt water. If much reaction follows, or if there is much edema of lids, I immediately apply cold cloths in the following manner. If in cold weather, I use the hydrant-water; if in warm, I use ice-water. Take small bits of linen, dipped into the water, and apply them to the eyes, changing every four or five seconds, or less frequently, as the disease appears to abate. It will be found that the silver solution will have to be increased in strength gradually, as the case progresses, until it is under control; then decreased slowly. If the cornea becomes involved, I use the eserine sulph., gr. 1, to aqua dist., ℥i., or pilocarpine muriate, grs. 2, to aqua dist., ℥i, one drop in the eyes three or four times a day. Occasionally I come across patients who bear the atropia sulp., gr. 1, aqua dist., ℥i, better than the myotics. It is of great importance to have the nurses educated to an appreciation of the proper early management of these cases, and not to trust to such common remedies as breast-milk, tea-leaves, borax-water, and poultices. Of course, the earlier such cases get into competent hands, the better their chances for good results. I forgot to mention one important point in the treatment, and that is, the use of some unguent (the better in cold weather being vaseline cerate, in warm weather simple cerate), applied to the edges of the lids after each cleansing, so as to prevent their glueing together and retaining the secretions in contact with the globe. In my section of the country, I often have to give quinine, in some form, internally to the little sufferers.

Current Literature.

1. HYGIENE AND THERAPEUTICS.

Churchill: Agreeable Medicines for Children. (*Jahrb. f. Kinderh.* [from *Brit. Med. Jour.*, May 6, 1883.], B. xxi., H. 4.)

The author alludes very pertinently to the desirability of combining medicines for children in a manner that shall make them least repulsive. Concerning cathartics he proposes the following combinations: 1. Castor-oil may be mixed with three to four times its volume of warm milk, thus forming a not disagreeable emulsion. 2. If a rhubarb pill is to be given, of three or four grains weight, it may be broken up and placed inside a chocolate cream. Water or milk may be given afterwards if required. 3. Portions of tamarinds may be mixed with podophyllin. 4. To a coffee-spoonful of compound liquorice powder ten to twenty drops of chloric ether may be added, and the dose be administered in warm milk. 5. Fluid magnesia or calcined magnesia may be given in syrup. 6. Pulverized aloes may be easily taken mixed with brown sugar; syrup of senna alone may be given, or senna with preserved plums. Half a seidlitz powder mixed with citron syrup is usually acceptable to children's palates. 7. Quinine may be satisfactorily given in the form of pills, or dissolved in orange syrup, or simply dissolved in water.

Beidert: The most Important Preparations for the Nourishment of Children. (*Jahrb. f. Kinderh.* [from the Transactions of the Congress for Internal Medicine at Wiesbaden in 1883], B. xxi., H. 4.)

The first scientific efforts at the preparation of an artificial food for infants were made by Liebig, the chemical constitution of mother's milk being taken as a type which it was aimed to imitate. The mistakes which were made in these efforts consisted in giving too high a percentage of albumen to mother's milk, and in assuming that it made no difference what kind of albumen was substituted for the maternal, likewise that carbo-hydrates and fats could be selected indifferently, if only they were used in the correct proportion. However much the question may be discussed, Biedert holds that the quantity of albumen in cow's milk must differ from that in human milk in order to be acceptable for infant food, and that sensitive infants can bear, at the highest, one per cent. of albumen in cow's milk. With reference to carbo-hydrates it is sufficient that they be given in a soluble form, and that fats be given in a finely divided emulsion. Finely emulsified fat has another function, however, in that it makes the casein with which it becomes intermingled more digestible. The necessary relation between nitrogenous and other materials established by Liebig at 1:3.8 should be changed to at least 1:5, and these figures may be susceptible of still further modifications. With reference to inorganic constituents human milk may be followed precisely as a model. The objection which he makes to most of the forms of artificial milk is that they are too dear to be generally useful. For preserving milk Biedert prefers simple boiling and cooling to the various methods and apparatuses which have been recommended. Keeping the milk at a temperature of 100° F. for two hours in an hermetically sealed vessel, and retaining it in the same until used, will ensure a satisfactory condition without the addition of sugar, but the author, as already mentioned, prefers the simpler method of boiling and cooling. The artificial cream preparation (Rahmgemenge) which he devised still retains his confidence, and is recommended. As to the various preparations which are approved or disapproved, none of them are familiar to the American market, and therefore we forbear to discuss their merits.

Link: The Treatment of Syphilis in Infants. (*Jahrb. f. Kinderh.* [from *Prager Med. Woch.*, 32, 1883], B. xxi., H. 4.)

Four cases are related in which infants with hereditary syphilis were treated with iodide of potash, through the medium of the mother's or the nurse's milk. In the first case two grains of iodide of potash daily were given to the nursing mother without producing any untoward influence upon the lacteal secretion. On the thirty-third day after the beginning of the treatment the eruption, which had been extensive and of a papular nature, had entirely disappeared, as well as an intense ozena. The child was ten weeks old when the treatment was begun.

In the second case the child was four months old, and had a macular and bullous eruption, with rhagades upon the lips, enlargement of the spleen, and rachitis. It was also very poorly nourished. For five weeks the mother was given two grains of the iodide of potash daily, at the end of which time all symptoms of the disease had disappeared. The third child was only eight days old, weakly and premature, and when only two days old manifested a macular eruption. When it was ten days old the mother began the treatment with the iodide of potash, taking, as in the previous case, two grains daily. This plan was continued ninety-four days, during which time the eruption was slowly disappearing. The mother was then obliged to stop treatment on account of mastitis. The fourth child was nine weeks old, dyspeptic, and had been covered for two weeks with a papulo-macular eruption. Treatment began in the eleventh week of its life, and lasted for eight weeks, the result being in every way satisfactory. The paper concludes with the pertinent remark that notwithstanding the success of this means of treatment there are many who will not care to abandon the method of treating hereditary syphilis in infants with mercury.

Walker: Dr. Frankland's Method of Preparing Artificial Human Milk. (*Lancet,* Aug. 23.)

Allow half a pint of new milk to stand for about twelve hours; remove the cream and add it (the cream) to one pint of new milk as fresh as possible. Into the half pint of skim milk put a piece of rennet about an inch square, to be obtained of the butcher. (Rennet wine for this purpose can be obtained of druggists.) Set the vessel in a warm place till the milk is curdled, which requires from five to fifteen minutes, the rennet being removed as soon as curdling commences, and put in an egg-cup for future use, as it can be employed daily for a month or two. Break up the curd thoroughly and separate the whole of the whey, which should be rapidly heated to boiling, when a little more casein separates, and may be removed by straining; 165 grains (about two teaspoonfuls) of sugar to be dissolved in this hot whey, and the sweetened fluid added to the pint of new milk (and cream). It is then ready for use.

Lee: Clinical Lectures at the Hospital for Sick Children. (*Med. Press and Circular,* Aug. 27, Sept. 3, 10). Introductory remarks.

There is a want of definiteness about so many cases of disease in children), that a feeling of disappointment seems to oppress the mind at times and induce a sentiment of doubt whether any real progress can be made and certainty arrived at in diagnosis. In the annual report there are 12,000 cases, 1,500 of which could not be diagnosticated. This dissatisfaction will not be felt so keenly if we reflect upon the nature of children's diseases. In many cases we do not know the true pathology. In studying these cases, physical diagnosis is not to be neglected; but, in addition, we are obliged to study symptoms very closely, and with this advantage—that our senses are quickened and our diagnosis of the disease in adults is thereby improved. Of the 12,000 cases mentioned above, the greater number are classified as diseases of debility and atrophy. Diseases of the skin, inflammation of the lungs, whooping-cough and rickets, are very nearly equal in number, thus showing what are the most frequent diseases in children. Next in order of frequency are: Diseases of the stomach, intestines and peritoneum, bones, syphilis, malformation of bone and abscesses.

Rickets.—A girl, one year old, was shown, who appeared to have nothing the matter with her. She ate and slept well, and is happy unless she is moved. The child has rickets. The changes in the bones and epiphyseal cartilages have not yet taken place, and there is nothing but a symptom or two to make the diagnosis, such a trifling one, apparently, as the child's putting her hand frequently to her head. In other cases, the question will arise whether there is any connection between the laryngismus or convulsions and the disease. Observation teaches us that they are very intimately associated. Experience has taught us that if there is one cause of rickets more common than another, it is some form of pulmonary or bronchial inflammation, and this is very often overlooked. Even in children above the age of infancy, rachitis frequently follows whooping-cough and measles. There are two chief points in the treatment: The relief of the bronchitis and the mechanical relief of the too yielding osseous framework. For the former, cod-liver oil with iron; external application of iodine liniment or camphor, with a protective covering to the chest and back, to be kept on continuously. As the child prefers sitting to any other position, a rest inclined to an angle of 60° will support the head sufficiently to allow the chest to expand to a greater extent than when the body is upright.

Diseases of the Skin.—While in their anatomical character diseases of the skin resemble the same affections in adults, clinically they differ to such a degree as to make it absolutely necessary to study them almost as a separate subject. Of all skin affections, sixty-seven per cent. are of a kind peculiar to infants and young children, the remainder only differ in the fact that the site of the disease is not limited to the situation where it is usually found in adults. The common diseases of the skin in infancy are truly due to inflammation. Sometimes it is slight, producing only superficial changes; sometimes deeper tissue changes are affected, and surface discharge of serum or pus occurs; sometimes the inflammatory process arises in numerous small centres, as in the affection known as red-gum.

A boy, aged sixteen months, was shown, who had small, ecthymatous ulcers on both legs and one arm, the remainder of the body being free from them. The child previously had red-gum, then urticaria, and finally the present affection. The external treatment consisted in hot baths, as hot as could be borne, and then the body was dusted with starch. The internal treatment consisted of Dover's powders and hydrarg. c. creta.

Several cases of eczema capitis were shown.

Treatment.—Hot baths and applications of sulphur and olive oil. Internally—

℞—Mixt. ferri lax;
Liq. arsenica. Sig. ʒi t. i. d.

Soap is not permitted at all, and the water used for the bath must be as warm as can be borne.

The common cause of the inflammatory diseases of the skin in children depends upon derangement of the digestion due to improper diet. The mothers are given a copy of printed rules for feeding, with orders to attend to them strictly.

Damaschino: The Treatment of Muguet. (*Rev. des Cien. Med.* [*from Bull. de Thérap.*], Aug. 25, 1884.)

In the treatment of this disease it is necessary to recognize its pathogeny, occurring as it does in individuals who are in a condition of dystrophy, the epithelium of the buccal mucous membrane being badly nourished, and its secretion, acid. In such a soil as this the *oïdium albicans* finds favorable conditions for development, and the treatment will obviously comprise means for the destruction of the diseased mucous membrane, modification of the buccal secretions, and cure of the general condition. The membranous patches, wherever they exist, may be destroyed by pressure or by caustic; then powdered borax mixed with glycerine or rose ointment, in the proportion of two to four grains of the former and ten of the latter, should be applied freely and frequently for the next twenty-four hours. Regnard recommends oxygenated water in the treatment of muguet, at first diluted one-half with distilled water, then applied pure. It should be applied several times a day, and also be occasionally gargled. Two or three days of this treatment are said to produce very satisfactory results. Tonics are indicated to remedy the depressed condition of the system at large.

Madden: Alcoholism in Childhood. (*Brit. Med. Jour.*, August 23.)

A boy, aged eight years, was admitted to the hospital suffering from delirium tremens. His mother was an habitual drunkard, but his father was sober. The child was sent away from home as soon as possible to be brought up away from his mother. On his return, when six years of age, the propensity for alcohol manifested itself, for discovering a bottle of whisky which had been secreted by his mother he helped himself freely and became stupidly drunk. After this he tippled for two years whenever he could. A few days before admission he abstracted a bottle of port wine, which he had almost finished when discovered. He fell into a drunken coma, became delirious, and was then brought to the hospital. At the end of three months he was convalescent and sent to reform school.

Another boy, aged eight years, was brought to the hospital suffering from alcohol-blood-poisoning, marasmus and eczema. He had been accustomed to go for his drunken mother's daily supplies of whisky and was rewarded each time with a sip. The taste and use became a second nature to him, so that he invested his earnings as a news-vender in the same way. At the end of two months he left in perfect physical health.

Dr. M. says there are many more such cases which show that alcoholism merits greater consideration than it has received as a cause, direct or indirect, of disease and death in children. In the majority of cases this tendency appears to be inherited and is most marked in those whose mothers were inebriates. In many of the instances of alcoholism in women the craving is traceable to the custom of giving stimulants in dysmenorrheal affections. "Under no circumstances should stimulants be given to children, except when therapeutically required." Dr. Barlow said he had seen the evil consequences of giving small doses of spirit, especially to babies at the breast, on account of flatulence. The same could be said of beer given daily to children of which he gave the following example: A female child from the age of six months was given a teaspoonful of beer, and from nine months the same amount of gin in an equal quantity of water, until it died at eighteen months. The autopsy showed a typical hob-nailed liver and a moderate amount of ascites. He also said it was only just to state that hob-nailed liver had been found in cases that did not give such a conclusive history of alcoholism.

Method of Administering Santonin. (*Rev. de Cien. Med.*, August 25, 1884.)

This is a subject which has called out much discussion on account of the lack of efficacy which often attends the use of the drug. Investigations upon this subject have recently been made by Lewin and Casparis, of Berlin, with the conclusion that the drug, to be effective, must come into immediate contact with the worms. Küchenmeister showed that lumbrici can live in a mixture of albumen, santonin, and water, but that they will quickly succumb when immersed in an oily emulsion of santonin. Lumbrici and tricocephali, on account of the locality which they infest, are most susceptible to the action of this drug. Oxyuri which infest the rectum or colon are more effectually treated by enemata than by santonin taken per orem. Lewin's conclusions are that the powder and the troches of santonin, as well as the santonate of soda are bad means for the administration of the drug, inasmuch as they are principally absorbed by the stomach. The only rational preparation is the acetous solution which is slowly absorbed by the intestine. The following experiments are instructive: Two students of Lewin each took five centigrams of pure santonin in a capsule. They soon experienced xanthopsia and cephalalgia, and the urine presented the characteristic reaction for twenty hours. At a subsequent period they each took the same quantity disguised in an *acetate of ricinus.* Neither headache nor visual disturbance was experienced, and only a slight degree of disturbance at the stomach. The urine manifested the characteristic reaction for thirty-four hours.

Fandos: Kerato-Conjunctivitis by the Elimination of Iodide of Potassium in Breast Milk. (*Rev. de Cien. Med.* [from *Gaceta de los hospitales de Valencia*], August 25, 1884.)

The patient in question was six months old, and after a purulent conjunctivitis had manifested a total adherent leucoma, with beginning atrophy in the right eye, and total leucoma in the left. Calomel and yellow oxide of mercury were applied to the left eye. The child's mother, who was at that time nursing it, was suffering from secondary syphilis, and was taking three grams of the iodide of potash daily. After the child had been treated three days, there was a violent attack of kerato-conjunctivitis in its left eye, which yielded to atropine and moist heat, the mercurials being discontinued for the time. When the mercurials were renewed, the inflammation recurred also. The mercurials were then applied to the right eye, and after two days of treatment kerato-conjunctivitis developed in it also. Thus the conclusion was reached that the iodide of potassium taken by the mother was, in part, eliminated in her milk. Imbibed by the child it was in turn eliminated by the lachrymal glands, forming with the mercury there employed a caustic iodide of mercury, which had caused the kerato-conjunctivitis. The further use of the mercurials was necessarily deferred until the mother had finished her course with the iodide of potash.

Wertheimber: The Treatment of Eclampsia in Children. (*Archivio. di Patol. Infan.* [from *Jahrb. f. Kinderh.*], July, 1884.)

As to the etiology of this condition the author speaks of a reflex variety caused by gastro-intestinal irritation, foreign bodies, and so forth, a cerebro-dynamic variety, and a symptomatic. Under the latter variety he refers to those cases in which there has been mechanical impediment to the circulation of the blood; disturbance as to the supply of oxygen, as in croup and pneumonia; accumulation in the blood of elements of retrograde metamorphosis, as in uremia and pyemia; and also to those cases in which eclampsia irritates the sickness, for example, acute infective diseases, intermittent fever, parotitis, and so forth. The treatment should vary with and be directed toward the cause. During the attack an injection should be given, consisting of 0.25 grams of chloral to 50 grams of distilled water. This will be found more efficient than the inhalation of chloroform, which is approved by some writers. The use of the bromides is recommended, and the following formulæ are suggested:

No. 1. ℞—Potass. brom., 2.0 grams.
Aq. distil., 80.0.
Syr. simp., 10.0.
M. Sig., Tea-spoonful three or four times a day.

No. 2. ℞—Potass. brom., 2.0 grams.
Ammon. brom., 1.0
Aq. distil., 100.0
Syr. simp., 20.0
M. Sig., Tea-spoonful three or four times a day.

No. 3. ℞—Potass. brom., 1.5 grams.
Chloral hydr., 0.58.
Aq. distil., 100.0.
Mucil. acac., 5.0.
Syr. auran. cort., 15.0.
f. Sig., teaspoonful three or four times daily.

The last (No. 3) is especially recommended. In eclampsia from inanition and collapse, warm baths and stimulants are required. The carbonate of ammonia may be given, or ether, and so forth. If intestinal disturbance be at the foundation, musk, camphor, or castor-oil may be given. In initial and reflex eclampsia tepid baths may be used, but not when it follows indigestion, or is associated with croupous pneumonia.

Roth: The Surgical and Orthopedic Treatment of Infantile Paralysis. (*Brit. Med. Jour.*, Sept. 6.)

This paper has for its object the treatment of infantile paralysis after the acute stage has passed, when it is possible to recognize what muscles are likely to recover power more or less completely, and those which will be more or less hopelessly destroyed, as far as voluntary contraction is concerned. The two guiding principles in the after-treatment of this affection are: First, to improve the power of those affected muscles which have still some voluntary power left; second, to prevent the onset of any deformity, or, if this has already occurred, to reduce it to a minimum. With regard to the first principle, the first thing to be done is to keep the paralyzed limb as warm as the other. This is accomplished by sponging all over with tepid water, followed by rubbing and drying; by the wearing of sufficiently thick woolen stockings or cloth leggings lined with fur; by warm baths—98° to 100° F., of ten to twenty minutes duration—every evening, to be followed by rapid sponging with cold water, and by massage properly performed. With regard to the second principle: When one of the lower extremities is shorter than the other, they should be made the same length by adding to the sole of the shorter one. In this way lateral curvatures of the spine are prevented. In the upper extremities, the well arm should be bandaged to the body, so as to make the affected one perform all the movements it is capable of doing. All unnatural modes of progression, as crawling or walking on the hands and knees, etc., should be interdicted. The food should consist largely of milk. For constipation, hot water enemata are preferable to purgatives. The division or excision of tendons has not shown any result worthy of trial in his opinion. If there is the smallest degree of voluntary power left, some improvement should be obtained in three months' time.

The Treatment of Diphtheria. (*Jahrb. f. Kinderh.* [from *Deutsche Med. Woch.*, No. 11, 1884], B. XXI., H. 4.)

From the transactions of the meeting of the Physicians of the Stralsund Association, at Stralsund, Dec. 2, 1883, the following has been abstracted: Dr. Grünberg, after attempts with medication of all kinds which have been recommended for diphtheria, has returned to the use of chlorate of potash, because it has always yielded him the best results, and never caused him any harm. The mercurial treatment of the disease never commended itself to his mind on account of the danger of collapse from its use. Professor Mosler remarked that A. von Gräfe had recommended mercury in the treatment of diphtheritic conjunctivitis, as early as 1854. He (M.) also feared to use the mineral on account of the danger of collapse. He had found fatty degeneration of the heart associated with diphtheria, and recently Leyden had discovered myocarditis in the same relation. Loebker expressed the opinion, as the result of extended observation in Hueter's service, that diphtheria is not propagated by an organism which is entirely peculiar to it. But, at all events, diphtheria of wounds and diphtheria of mucous membranes are probably identical, and in both cases one has to deal with what is probably the highest grade of septic poisoning. Collapse in diphtheria must depend upon poisoning from alkaloids derived from putrefying bodies for its final factor, for from these the most acute and the most deleterious effects can be obtained. In view of this fact, the most energetic tonic treatment of the disease is called for. Krabler laid great stress upon the tonic effect of fresh air, and recommended that children with diphtheritic stenosis of the larynx be left in the open air the entire day, when that is possible.

Strahan: Cholera Infantum and the Hydrencephaloid Condition. (*Brit. Med. Jour.*, Aug. 3.)

What I wish to direct attention to principally, however, is the prevention of the hydrencephaloid condition by prompt and effectual treatment whenever vomiting and purging (when due to whatever we desire to call the disease, whether infantile cholera, diarrhea from indigestion, enteritis, entero-colitis, or dysentery) takes place actively in a young child. In spurious hydrocephalus the fontanelle is depressed, whereas in the true form it is prominent, the surface convex and probably pulsating strongly.

Treatment.—The usual treatment by opiates, brandy, and astringents, too often only serves to increase the vomiting. The first and most important point is to stop the vomiting, as while this goes on the patient cannot be nourished or the diarrhea stopped. One-sixth of a minim of creosote, and half a minim of tincture of iodine, in a dram of camphor-water, given every half hour or repeated immediately for a few times if rejected, is by far the most effectual prescription for vomiting. At the same time, for the diarrhea, between the doses, give one-twelfth of a grain of calomel or one-third of a grain of the hydrarg. cum creta, rubbed up with a few grains of the sugar of milk. But, should the case remain unimproved for twelve hours, an enema of a drop or two—according to age—of tinct. opii. in starch, should be given. In severe cases barley-water, made as thick as milk, with fifteen to twenty drops of port wine, can be taken as nourishment. Bartholow says: "Opium does harm in all gastro-intestinal remedies in which there is a deficiency in the proper secretion or a suspension of the function of the liver or kidneys." Bromide of potassium is often useful when the attack is due to atmospheric heat or teething. If the hydrencephaloid condition should set in, hot poultices with mustard should be applied to the nape of the neck; hot applications over the praecordium; m. 10 spts. ammon., aromat in camphor-water, q. e. h., and at different times, a drop or two of Ashburton Thompson's tincture of phosphorus in a little mucilage. The child should be kept in a horizontal position.

2. MEDICINE.

Jacobi: Diphtheria Spread by Adults. (*N. Y. Med. Jour.*, September 27.)

To elucidate some mooted points connected with the etiology of diphtheria two cases are cited in which children suffering from this disease had been in the company of adults having sore throats. No permanent spontaneous generation is claimed, or has been proved, for cholera, scarlatina, or variola. Nobody looks for their primary cause in moist walls of houses; in bad ventilation; in the odors of hospital wards; in putrefying kitchen refuse, or in the exhalations of sewers. But both medical men and laymen frequently regard these factors as the main and frequently the sole causes of diphtheria. While house hygiene should not be overlooked, we may live to reach the conviction that there is but one predisposing element, viz., a sore, mucous membrane, and but one cause of an individual attack of diphtheria, viz., direct contagion. Diphtheria effects principally the oral and pharyngeal spaces and the respiratory organs. The size of the membrane and its seat determine the character of the disease, ceteris paribus. While a tonsillar diphtheria is attended with scarcely any danger, a laryngeal diptheria destroys a child by strangulation, and nasal diphtheria by sepsis. The character of the epithelium, whether pavement or cylindrical, the presence or absence, copiousness or scarcity of muciparous glands and lymph ducts, decide the nature of a case. It is also well known that the definition of the term diphtheria, as it does not depend upon the size or seat of the membrane, is also not limited by the character of the symptoms. A high or a low temperature, muscular or pharyngeal pain, difficulty in deglutition or articulation, sespis, glandular swelling, may be present or absent in a case of diphtheria as long as the characteristic membrane is met with. A mild case may generate many severe ones, and a severe one need not necessarily be the source of misfortune to others. The so-called follicular tonsillitis implies a catarrhal or suppurative condition of a tonsillar crypt, or several of them. But the large majority of cases which are commonly called follicular tonsillitis do not belong to this annoying but innocent class; most of them are diphtheria. What to-day looks like a point, or four or five points, covering the outlets of ducts, may to-morrow be a confluent membrane.

Diphtheria in the adult is not as rare as it is reported to be, but diphtheritic sepsis is not very frequent as the action of the lymph system is more pronounced, the younger the individual. Mild affections in adults, punctate deposits terminating in membranes on the tonsils, membranous streaks extending, vertically in most cases, over the posterior aspect of the tonsils, are frequent. A little muscular pain and difficult deglutition are, perhaps, all the symptoms complained of. The danger arising from the contagion spread by adults affected with mild forms of diphtheria is increased by the fact that in them diphtheria is apt to assume a chronic character without losing its contagious nature. Barthez emphasizes the long duration of membranes; they may last a month before being exfoliated and expelled. Cadet de Gassicourt publishes cases of pharyngeal and nasal diphtheria of forty-five and one hundred and fifty-one days, and one of laryngeal diphtheria of fifty-five days' duration. The contagion spreading from such cases is of greater importance than the risk run by the individual. A family with children ought to insist upon the occasional inspection of the throats of their help; servants with chronic pharyngeal catarrh must not be hired. If there be any class of persons who are constant transmitters of diphtheria, and require attention and caution, it is nurses and cooks—in fact, all domestic help; also sick-nurses, teachers, hair-dressers and barbers, shop-keepers, restaurant-keepers, and all those people who are in constant contact with all classes and ages. There is as much diphtheria out of bed as in bed; nearly as much out of doors as indoors. The following are the main conclusions reached: There is probably no spontaneous origin of diphtheria any more than there is a spontaneous origin of cholera or scarlatina; diphtheria is contagious; severe forms may beget severe or mild forms; mild cases may beget mild or severe cases; what has been called follicular tonsillitis is mostly diphtheria. It is seldom dangerous to the patient, as the tonsils have but very little lymph communication with the rest of the body, but it is contagious. This form is frequent in the adult, in whom it loses nothing, however, of its contagiousness. Diphtheria in the adult proves dangerous to the community mostly because it does not restrain the patient from communicating the disease. It is apt to last long: Firstly, because most cases occur on a surface covered with pavement epithelium (tonsils); secondly, because of the constant exposure and neglect on the part of the patient. Even without it, diphtheria may last weeks and more; with it, it is subject to sudden relapses. As long as it lasts it is contagious. As diphtheria is but a mild affection in many adults, who frequently disregard it, the question of transmission by means of clothing, and so forth, on the part of third persons is capable of becoming more difficult to answer than it ever was. Many a case which has been believed to be thus carried is probably one of direct contagion from a patient to a second person, from this second to a third.

Todd: Deafness as a Sequel of Parotitis. (*St. Louis Courier of Medicine*, August.)

A boy, aged six years, entered the clinic apparently totally deaf. Five weeks previously he had mumps bilaterally; the swelling had been marked, but gave him so little inconvenience that he played about the house. At the end of the first week of the disease he complained of feeling dizzy and fell on going down a descent of two steps. For two weeks following there was some irregularity of gait and then it gradually disappeared. The morning following the day on which the dizziness was complained of he could not hear when called. On examination of the ear the tympana were found sound and nothing abnormal elsewhere. The continued electric current has been applied and now he can hear loud snapping of the finger and other distinct noises. The air douche has also been applied. Toynbee thinks that the deafness arises from the general infection of the system.

Dr. T. thinks that the inflammation extends from the salivary gland along the vessels and nerve directly into the ear and sets up fresh tissue changes. The course of the facial nerve, and also that of the stylo-mastoid and tympanic arteries, afford a ready means of communicating the disease. Treatment: Leeches in front of and behind the ear; the Eustachian tube and tympanum should be examined and proper means taken to remove any congestion.

Venn: Acute Yellow Atrophy of Liver. (*Lancet*, August 2.)

A girl, aged seven years, had been taken sick eight months previously with slight jaundice, which gradually became worse. Never any pain; quiet and drowsy; bowels confined. She had been treated for six weeks with grey powder. At time of observation was well-nourished, skin a deep olive color, conjunctivæ yellow; abdomen distended and tympanitic, no ascites; superficial epigastric veins on both sides prominent. The right lobe of the liver came just below the lower border of the ribs, the left lobe reached three fingers' breadth below the eusiform cartilage. Urine dark colored and gave the test for bile. The evacuations were light colored. Appetite good. Breath had a sickly odor. Ordered calomel one grain, *t. i. d.*, and a liniment of iodide of potassium to be applied to the abdomen and the latter to be well bandaged. In a few days the calomel was stopped, the bowels moving too freely. The abdomen became flaccid; the superficial epigastric veins disappeared; the jaundice diminished. There was a hemorrhagic eruption on the abdomen and hemorrhage from the gums. Fourteen days afterward the jaundice began to increase, she became more drowsy. Hemorrhage from the bowels took place; the superficial abdominal veins reappeared. Podophyllin gr. 1-10, *t. i. d.*, was ordered. Three days afterward the liver began to diminish. At the end of two weeks both lobes of the liver were very much smaller. The week following she vomited blood, became light-headed, drowsy, then unconscious, with constant vomiting, dilated pupils, involuntary passage of urine and feces, and death. Autopsy: Heart, normal; bile stained fluid in pericardium; Lungs contained pneumonic patches; liver, the right lobe was above the lower border of the ribs, the left came down only an inch below, yellow color, weight 10½ ounces; spleen a deep plum color, hard, weight 1¼ ounce; stomach contained dark green fluid; brain, dura mater adherent and yellowish, substance of brain healthy. Microscopical examination of liver. Cells atrophied contained granular debris. The micro-organisms, described by Dreschfeld and others, which are said to fill up the vessels, could not be found.

Leidesdorf: Psychical Troubles in Early Childhood. (*Rev. Mens. des Mal. de l'Enf.* [from *Semaine Méd.*), July, 1884.)

Fifty years ago, remarks the author, it was absolutely denied that psychical troubles existed among children. It is only within the past ten years that the subject has been discussed by alienist to any extent. During a given three years, 1,714 insane patients were received at the hospital at Döbling (Vienna) who were over eighteen years of age, while only seventeen under the age of eighteen were received. By the last census of Berlin, it appears that there is in that city one insane adult to 400 sane ones; while of children, the proportion is one to 1,400; but the author thinks that no conclusion can be drawn from these statistics. As the result of the author's minute observation, the opinion is advanced that there are few permanent psychical troubles among children, though transitory ones are abundant. Of the latter, the author has observed among children four or five years of age sudden attacks of depression, melancholy, or bad humor. He mentions the case of an intelligent little girl who was suddenly seized with fear that she should lose her parents and be abandoned by everybody, and who became profoundly depressed as a consequence. The same condition is sometimes produced by exaggerated concern on the part of friends for the health of a child, and again by the sight of dead or sick people. Hallucinations are common enough in the psychical life of children, a familiar example being the *night terrors* to which many children are subject. Somnambulism is also of not infrequent occurrence, a condition resembling this sometimes occurring also by day and while the child is awake. An interesting case of the latter variety occurred in the author's experience. Another class of psychical troubles may be permanent. [These are called by the author *zwangsvorstellungen*, a word which has no exact English equivalent; the corresponding French term is *imaginations forcées*.] Such a condition occurs when, for example, a child is filled with fear at the sight of a needle; or, when such a question is asked as, What is the world? and this tendency to mental perturbation may last during life. Permanent psychical troubles are rarely seen in children who are under fourteen years of age. Among the neuroses which are most likely to lead to permanent psychical troubles, are mentioned chorea, epilepsy, and hysteria, and meningitis is less frequently a predisposing cause. One case is reported by the author of progressive paralysis of the insane in a girl fifteen years of age. This is a most unusual condition, only one other case being recorded in medical literature.

Peckham: The Anatomical and Physiological Basis of the Kineseo-Neuroses of Infancy and Childhood. (*Jour. of Nervous and Mental Diseases*, July.)

The knowledge of the important subject of the anatomy and physiology of early life is fragmentary and meagre in comparison to the mass of facts known with reference to the adult organism. The nervous diseases peculiar to early life have an anatomical, physiological and psychical basis which explains why the kineseo-neuroses are more prevalent at this period. That the nervous diseases of childhood are motor is patent to the most superficial observer. Neuroses of the sensibility are exceedingly rare before the tenth year. Soltmann, in his observation of nearly ten thousand children, found only twenty-two with cutaneous neuralgia. Convulsions are the most prevalent of nervous diseases of the infant. The next great motor neurosis of children is epilepsia. By far the greater number of attacks of this disease occurs before puberty. The third great motor disease of childhood is chorea, which occurs chiefly from the seventh to the fourteenth year. The underlying anatomical and physiological conditions of infancy and childhood which cause this peculiar irritability of the nervous system, which displays itself pre-eminently in motor phenomena, are given as follows: First condition: Growth. Nowhere is the process of growth more rapid than in the nervous system. The growth of the brain is unparalleled anywhere else in the body. It has been likened to the pregnant uterus. It cannot be doubted that rapid development stands intimately related to the peculiar pathological manifestations of the nervous system of the infant and child. Second condition: The comparatively large development of the nervous system and its intimate relation to the rest of the body. According to the tables of Vierordt, the relative weight of the nerve-centres is far greater than in the adult. The brain is 14.34 per cent. of the body weight, while that of a full-grown person is 2.37 per cent. The "vital unit" is more strongly characterized, and the functions have a greater reciprocal dependence; consequently, any disturbance in any part of the system destroys the nervous equilibrium. How easily a loss of harmony between the various actions of the individual is brought about in early life is illustrated by the slight causes which produce convulsions—undigested food in the stomach, irritation of the intestinal tract, the process of cutting a tooth. Third condition: The predominance of reflex action over the voluntary. The infant and young child may be compared to the frog. Meynert has shown that motions are produced in two distinct ways, according as the impressions travel through two distinct paths—the reflex path, which is complete at birth, and the paths from cortex to periphery, which are not then developed. It is readily seen that the influence of the will upon the nervous system is very small in early infancy; and only gradually developed during the period of childhood; but the lower centres are well nigh perfectly developed, so that reflex action, unchecked by the cerebrum, forms the crowning characteristic of nerve force. Fourth condition: Unstable condition of nerve elements. Nerve irritability doubtless depends upon the fact that the protoplasm of the axis cylinder is composed of molecules in unstable position. In other words, nervous phenomena depend on molecular oscillations and chemical changes. The tissues in early life contain much water, which increases the weight of the organs; it also increases their delicacy. Metabolic processes are much more extensive and more rapid than in the full-grown. As a physiological result, the nervous system is much more responsive to stimuli. The molecules, according to one of the axioms of the molecular theory, require less force to move them, the greater the departure from the solid form. The same rule applies to chemical action. Therefore this watery, pulpy condition of the tissues must be an important factor in the neuroses of childhood, facilitating, as it does, the molecular and the chemical changes incident to the generation of nervous impulses. Fifth condition: The circulatory system and its peculiarities. The amount of blood, on account of the great activity of the organs, is much greater in proportion in the infant and child than in the adult. It circulates with greater rapidity. The large amount and rapidity of the circulation predisposes to inflammation and congestion of all the organs, which may react indirectly on the nervous system. The skull, with its distensible fontanelles and unossified sutures, taken together with the softness of the brain substance, permits extensive variations of cerebral circulation in the infant. Given, then, a nervous system rendered peculiarly liable to disease by reason of rapid growth; greater development in comparison to other tissues of the body; less under the guidance and inhibition of the highest nerve-centres, and peculiarly liable to reflex action; its nerve elements unstable; a circulation rapid and less under control, it is not surprising that among the diseases of childhood those of the nervous system take a foremost rank. The reasons why the neuroses of infancy and childhood should be motor rather than sensory have already been indicated. They may be summed up as follows: 1. The reflex arcs, of which the motor-strands form an important part, are earliest perfected, so that when a sensory stimulus sets free nervous energy, it is liable to overflow into motor paths. 2. Intellectual comprehension of sensation, and, consequently, of pain, is the last to be developed; in consequence, severe nervous shocks, which would give rise to exquisite pain in the adult, result in a kineseo-neurosis in a child. In early infancy the simple kineseo-neuroses prevail, infantile trismus, inward fits, the rare disease of salaam convulsions, eclampsia. Later, the eclampsia of the child gives place to the more complex disease of epilepsia; the acute disease of eclampsia has become chronic.

Rendu: Pulmonary Sclerosis and Dilatation of the Bronchi. (*Arch. f. Kinderh.* [*Gaz. des Hôp.*, No. 6, 1884], B.v., H. 9 and 10.)

This condition occurred in a child at the Hôspital des Enfants-Malades, age not stated, which had already had a cough for three years, was emaciated and anemic, and appeared to be upon the verge of phthisis. The ends of the fingers were clubbed and the nails incurved. There were paroxysms of coughing, and expectorations of a puriform, fetid, almost gangrenous matter, and this was often accompanied by the ejection of the food which had been taken into the stomach. There was no evidence of harmful pressure nor was there palpitation of the heart, and the right side of the chest was flattened, especially at the base. Percussion on the left side showed nothing abnormal, on the right it revealed three zones, in the uppermost there was absolute dullness, with increased resistance, in the middle one the percussion note was clear, in the lowest one there was dullness again, but of a less positive character than in the uppermost zone. Auscultation, posteriorly, revealed bronchial breathing in the upper zone, moderately rough breathing, with some rhonchi in the middle one, and extinguished breath sounds, with a few râles in the lower ones. Anteriorly, these phenomena were not present. The general condition was fair; morning temperature, 37° C., evening, 37.5°–38°; sleep and appetite were nearly normal, and there was no diarrhea. The phenomena suggested tuberculosis, but opposed to this thoory was the long duration of the disease, the limitation to one side, and the very slow progress, while tuberculosis in children usually runs a very rapid course. There was also an absence of fever, of diarrhea, and of bacilli in the sputa. The conclusion which was finally reached was that the child was suffering from a progressive induration of the left lung, with multiple dilatation of the bronchi. The original diseased condition was probably pleuritis. The prognosis was unfavorable.

Treatment.—As to treatment, three conditions were to be satisfied: 1, the strength must be sustained by alcohol, coffee, raw meat, bouillon, etc.; 2, the bronchial secretion must be disinfected by inhalation of chlorine water, thymol, eucalyptus, etc.; 3, the irritability of the patient must be quieted, his depression of spirits must be overcome, as also his aversion to food, and iodoform in the shape of pills should be given.

Mosler: Regarding the Presence of Animal Parasites in the Larynx. (*Arch. f. Kinderh.* [from *Ztsch. f. Klin. Med.*, B. vi., H. 6], B. v., H. 9 and 10.)

The author has found by a search of the literature since the time of Haller, that lumbricoid worms are of frequent occurrence in the larynx. The phenomena are usually of an intense character, and the course of the affection rapid. As a rule, when the lumbricoid first touches the laryngeal mucous membrane, there is a severe paroxysm of coughing. If this does not succeed in ejecting the worm, but the latter, on the contrary, is able to work his way downward, the glottis will become spasmodically closed. The result of this will be death in a few minutes; or, in case the worm gets into the bronchi, in a few days, from bronchitis. The diagnosis is very difficult, unless the worm happens to be seen. The presence of a foreign body would suggest the use of apomorphia, or some other suitable emetic, and in case this fails, the immediate performance of tracheotomy.

Stadthagen; Demonstration of a Case of Peculiar Paralysis following Diphtheria. (*Jahrb. f. Kinderh.* [from *Deutsche Med. Wochen.*, No. 28, 1883], B. xxi., H. 4.)

The patient in question was eleven years of age, and in the fourth year of his life had suffered from an attack of diphtheritic angina. This was followed by a paralysis of the velum of the palate, and some months later the right leg showed evidence of paralysis. For five years this condition continued, the palatal paralysis becoming rather less pronounced, and that of the leg becoming more so. After this the right arm commenced to lose power, and within the six months previous to the author's paper there appeared decided symptoms of bulbar disease, with weakness of both extremities upon the left side. There was also a paresis of the muscles of the lips, which gave a peculiar expression to the countenance, and the tongue could be moved over the teeth only with difficulty. Sensitiveness of the teeth remained, likewise susceptibility to excitation by the galvanic and faradic currents on the part of the muscles of the lips and tongue. The reflex excitability of the velum of the palate was lost, and the speech had become halting, monotonous, and nasal. There were no trophic disturbances in any of the paralyzed muscles, such as are present in cases of chronic bulbar paralysis. The right leg was habitually in a position of rotation and adduction, and was dragged after him by the patient; but there was no trace of ataxia manifested when the eyes were closed. Strong muscular contraction occurred when an attempt was made to produce passive motion of the leg, and the patellar reflex was exaggerated. In the right arm there was a combination of paralyses with tonic contractions, the latter being especially evident in all intentional motions in the antagonists of the paralyzed muscles. In the left arm the same changes had begun. The process in this case was believed to be a diffuse one, and whether continuous or interrupted could not be accurately stated. It extended upward as high as the bulb, and downward into the lumbar (spinal) enlargement. The susceptibility to electrical excitation and the non-atrophy of the muscles, showed that the process had not extended below the point indicated. Nystagmus, dizziness and trembling were wanting. In the discussion which followed the reading of this paper before the Berlin Society for Internal Medicines, Leyden remarked that he considered the case one of chronic spastic bulbar paralysis.

Gutterbock: Articular Inflammations in Hereditary Syphilis. (*Rev. Mens. des Mal. de l' Enf.* [from *Semaine Méd.*, June 19, 1884], July, 1884.)

In 1878 the author published accounts of four cases of articular inflammation which had developed in consequence of hereditary syphilis. Since that time, he remarks in his paper, that he has seen four additional ones.

Of these eight cases six occurred in children who were under five years of age. In one of them the elbow and the knee joints were affected at the same time, and the child was cured by using sublimate baths, which were used morning and evening, each bath containing seventy-five grains of sublimate. Another case was that of a boy, eight years of age who had hydarthrosis of the knee-joint. Salicylic acid in suitable doses was administered, and the trouble disappeared on two successive occasions only to recur. Iodide of potassium in large doses was then prescribed, and its use resulted in complete cure. This child presented the appearance which Hutchinson has described as characteristic of hereditary syphilis, namely, the symptoms of Basedow's disease; its eyes were prominent, and its thyroid gland enlarged; the tonsils were hypertrophied, and the walls of the pharynx presented a surface which was covered with granulations. In making a diagnosis of these cases the pseudo-paralyses which precede the other symptoms are of great assistance. Fournier and Parrot have described the paralysis with sufficient minuteness. As to the enlargement of the epiphyses, it was noticeable in some of the author's cases that this condition was preceded by an inflammatory hydarthrosis.

Riegel: Concerning Spasms of the Respiratory Muscles. (*Arch. f. Kinderh.* [from *Ztsch. f. Klin. Med.*, B. vi., H. 6), B. v., H. 9 and 10.)

The patient upon whose case this paper was based, was a boy, fourteen years of age, who, at some time in the winter, fell into the water. Fourteen days after this accident, without any intervening development, certain disturbances in his breathing were observed, consisting of frequent, short, spasmodic, loud, expiratory sounds, not following an inspiration, but introduced between an expiration and the recurrent inspiration. After the spasmodic expiratory efforts there was usually an interval of twenty or thirty seconds. No change of rhythm could be produced by pressure upon the neck over the phrenic and vagus nerves. The patient had already suffered more than a year from this condition, when he came under the author's care. The latter was undecided as to whether the condition arose from the patient's becoming wet and chilly, or not. That it could have arisen in a reflex manner from some other morbid condition, as helminthiasis was not demonstrable. The conclusion finally reached was that the respiratory spasms were a feature of a general neurosis, which was probably hysterical in character. This conclusion was strengthened by the result of a treatment, which consisted merely in enjoining the patient to breathe slowly and methodically, and resulted in an almost complete subsidence of the spasms. A single application of the faradic current was followed by a complete cure. Cases similar to this have been published by Leyden, and the author takes occasion to remark that they furnish a worthy contribution to the polymorphous picture of hysteria in childhood, a disease which was first completely described by Henoch.

Burger and Poulet: Whooping-Cough, its Microbe and its Treatment by Antiseptics. (*Rev. Mens. des Mal. de l' E.* [from *Jour. de Méd. de Paris*, August 18, 1884], September, 1884.)

Parasites were, long ago, found in the expectoration of whooping-cough by Letzerich and Tschamer, but the researches of these authors are now forgotten. Burger, of Bonn, has recently demonstrated that the microbe of this disease is visible with a power of three hundred and forty to six hundred diameters, under the form of small corpuscles of unequal volume, which resemble a biscuit in appearance. They are irregularly distributed, and arranged in a linear manner, and appear like *leptothrix buccalis.* In preparing the specimens, a small quantity of the sputum is to be placed between two layers of glass, the glass is then placed over the flame of a Bunsen burner in order to coagulate the albumen, next the coloring matter is applied, either fuchsin or methyl violet. The specimen having been washed in pure water or in alcohol, the microbes alone remain stained. They are so abundant that their specific relations to this disease cannot be questioned, and their frequency is directly as the intensity of the disease. As yet they have not been cultivated and inoculated. Burger's discoveries have been verified by Poulet, and he also recommends an antiseptic treatment. He advises the keeping of the patients in an apartment impregnated with antiseptic vapors, and formed by the evaporation of a mixture containing

Thymol, 10 grams.
Alcohol, 250 "
Water, 750 "

Internally he recommends either syrup of gudrun, thymol, phenic acid, or eucalyptol.

3. SURGERY.

Winternitz: A Case of Atresia of the Anus with Opening of the Rectum into the Vestibule of the Vagina. (*Arch f. Kinderh.* [from *Prager Med. Wochen.*, No. 16, 1883]. B. v., H. 9 and 10.)

On the 22d of March, 1883, a new-born child was received into the Foundling Hospital at Prague, which seemed to be thriving, notwithstanding the fact that it was suffering from atresia of the anus. Backward from the posterior commissure of the labia majora, corresponding to the smooth raphe which is to be found in normal cases, there was a somewhat prominent projection, which, after proceeding for one centimeter, developed into a decided elevation half a centimeter long, with a minute depression in the middle of it. The entire length of the projecting line, from the beginning, was two and four-tenths centimeters, and from its termination the raphe, in a normal condition, extended to a point opposite to the tuberosities of the ischia; but there was no anal opening at that point. The feces came from a minute opening, one millimeter wide, which was between the labia majora and behind the hymen. Through this opening a fine probe could be passed, without exercising any force, to a depth of five centimeters, to the right and posteriorly. The sound could be felt through the perineum, which proved to be three-quarters of a centimeter in thickness. The urine came from the meatus urinarius, which was normal in all respects. No cloaca for the reception of feces was discoverable anywhere, and it was deemed best to defer any operative interference to a time when more obstruction would be occasioned by fecal matter than was the case at the time of writing.

Saint-Germain: Intussusception; Enterotomy; Death. (*Med. Press and Circular*, July 16.)

A boy, four and a half years of age, five days previous to admission had been seized with acute abdominal pain, accompanied by persistent vomiting and constipation. A physician being called, a large, sausage-like mass was found in the left iliac fossa, which was diagnosticated as an invaginated intestine. Injections of air were thrown into the rectum without any successful result. On admission to the hospital the diagnosis was confirmed by a considerable tumor being felt in the rectum. Injections from a seltzer-water fountain were thrown into the bowel, and electrization of the part was continued for fifteen minutes, but both failed. On the following day M. Perot performed enterotomy above the right crural arch, according to Nèlaton's method. During the four following days there was improvement, but on the fifth eversion of the intestinal mucous membrane and rupture of the suture placed at the inner side of the incision, took place. The abdomen became more tympanitic, and the patient died from collapse on the tenth day.

Autopsy.—General peritonitis. The intestinal incision was found to extend along the end of the ileum for two centimeters (four-fifths of an inch), and one centimeter (two-fifths of an inch) along the cecum. The ileo-cecal valve permitted the passage of water. The intussuscepted intestine occupied the last third of the transverse, and the greater part of the descending colon. There were two perforations at the commencement of the invagination. Seventeen centimeters (six and four-fifth inches) of sloughing intestine were found invaginated. (It does not appear that any attempt to find the invaginated portion was made at the operation. A simple enterotomy was hardly justifiable.)

Bryant: Fracture at Base of Brain; Escape of Cerebro-Spinal Fluid from the Ear; Recovery. (*Lancet*, Aug. 23.)

A boy, aged six years, had the wheel of a light wagon pass over his head. A large wound was found on the left side of the head posteriorly, and sero-sanguineous fluid was oozing from the ear. A fracture of the inferior maxilla was found later. There was no paralysis or loss of consciousness. In a few days pus was found collecting over the mastoid process, and was evacuated. On the eighth day the cerebro-spinal fluid ceased flowing. In two months the child was discharged cured.

O'Brien: Congenital Hydrocele; Radical Cure. (*Indian Med. Gazette*, July.)

A boy, aged five years, had suffered from birth with a swelling on the left side of the scrotum. At the present time the scrotum reaches half way to the knee, and was threatened with perforation from a sloughing ulcer at the most dependent part. The tumor was not transparent, but its contents, which were fluid, could be readily returned into the abdomen by pressure. It was tapped and one or two pints of a thick, dark green, serous fluid evacuated.

In a few days it began to reaccumulate. An operation was begun which was undertaken with the intention of ligating the neck of the sack as it emerged from the external abdominal ring, and then to dissect out the scrotal portion. It was found impossible to perform the second part of the operation as intended, as the cord and testicle were too intimately blended with the wall of the sack to allow separation, so that they were removed with the adherent portions. A drain tube was inserted and the edges of the wound united. Recovery progressed favorably. Strict antiseptic precautions were observed.

Ingals: Nasal Polypus. (*Jour. Amer. Med. Assoc.*, August 23.)

A girl, aged fourteen years, for a year previously had been complaining of catarrh and difficulty in breathing through her nose. She had been troubled with cough and expectoration for eight years. Anterior rhinoscopy revealed large mucous polypi nearly occluding both nares. The growths apparently sprung from the middle meati or external surface of the middle turbinated bones. They had the characteristic appearance and feel of myxomata in this locality. They were thoroughly removed with the steel wire écraseur, and then chromic acid was applied to their bases. The application was made by fusing the acid by gentle heat upon the end of a flat aluminium probe.

Saint-Germain: Death Following an injection of Piazza's Mixture.—Tubular Cauterisation of Erectile Tumors with Vienna Paste. (*Rev. Mens. des Mal. de l'E.*, September, 1884.)

The author remarks that he has used Piazza's mixture (which consists of perchloride of iron, chloride of sodium, and water) for the injection of erectile tumors in more than two thousand cases. No accident ever occurred until recently, and the best results were always looked for and obtained. Recently, however, an injection of this mixture was made into an erectile tumor in the neck of a newborn infant. Death followed in ten minutes. Though the subsequent autopsy failed to reveal the cause of death, no clots in the circulation being found, distrust of this mixture was established, and in the search for a suitable substitute Vienna paste suggested itself, used after the method of Labric. The caustic agent, by this method, is used in the consistency of a paste, and introduced into one end of an open glass tube eight centimeters long and four millimeters in diameter, the column of paste in the tube being about half a centimeter long. The borders of the erectile tumor to be treated being then protected with cotton, the paste can be applied gradually to the part which is to be cauterised being pushed forward by a stylet introduced at the other end of the tube, the tube being retained upon the growth until the eschar has formed. A sufficient number of applications must be successively made to destroy the vitality of the growth. The operation is completed by washing the cauterised surface with vinegar. A number of cases are related in which this plan was followed with entire satisfaction, and the author is consequently, very favorably disposed toward it.

Evers: Sarcoma of Ovary. (*St. Louis Courier of Medicine,* August.)

A girl, aged two years and a half, was taken sick with a low form of fever, temperature curve resembling that of typhoid. There was a moderate distension of the lower part of the abdomen which was said to have been noticed a short time before, but to have disappeared only to reappear with the fever. At the end of a week the fever disappeared entirely, but the enlargement increased rapidly. Girth at umbilicus twenty-six inches. Tumor solid. Edema of feet. Urine normal. Toward the end of the sixth week fever returned with cough, and finally death occurred seven weeks after the first appearance of the growth. Autopsy: Tumor of right ovary, weight twenty-eight pounds; adhesion easily separated. Microscopical examination showed it to be a sarcoma. Operation had been suggested to the parents, but not urged, as the tumor was considered to be malignant.

Kriegenbeck: Pistol-shot wound of Colon and Base of Lung; Recovery. (*Med. Times and Gazette,* July 26.)

A boy, aged sixteen years, was accidentally shot by a bullet from a pistol, the ball striking the left hypochondriac region, passing upward and outward, wounding the base of the left lung, and lodging beneath the skin of the back, whence it was removed. Emphysema of the left half of the body became well marked; great dyspnea resulted; respiration 54, pulse 148, temperature 99°6. F. Feces made their way out of the entrance opening. Gradually the opening closed, the feces being passed by rectum, and a little over a month after the accident the opening closed. The exit opening closed a day or two after the bullet had been removed.

Lucus: Perinephritic Abscess; Recovery. (*Med. Times and Gazette,* July 26.)

A boy, aged twelve years, apparently strong and healthy, was admitted to the hospital in the following condition: Pulse 120, respiration 39, temperature 100°4 F.; lethargic; tongue clean; thighs flexed on the abdomen, the latter not tender on pressure; the right lumbar region was more resistant than the left; heart, spleen, and liver normal; urine did not contain either sugar or albumen. Three months previously he had been thrown down by an older boy and his head injured, this being the only part complained of. For two weeks previous to admission he appeared drowsy and complained of pain when touched. He gradually became worse until admitted. Three days after admission the right lumbar region became very much enlarged. Two days afterward an incision was made half an inch from the spine parallel with the last rib. Between the quad. lumborum and the kidney an abscess was reached. The cavity was washed out with a weak carbolized solution, a large drain tube inserted, and the wound sewed up. Operation performed with Listerian precautions. The tube was removed on the ninth day; the wound closed within a month. The highest temperature after operation was 99°2 F. Six months after the operation the boy was fat, and there was not any trace of the trouble.

Injury to "Angle of the Eye;" Sudden Death Three Weeks after Apparent Recovery. (*Med. Press and Circular,* July 16.)

A girl, three years of age, tripped and fell, striking the "angle of the right eye" against the sharpened end of a slate pencil which she held in her hand. There followed slight hemorrhage and some shock. She recovered fully, but three weeks afterward complained of pain in the eye and head. Symptoms of acute inflammation set in with convulsions; death followed in twenty-four hours. The medical inquiry stated the cause to be meningitis, but this seems doubtful.

Roocroft: Radical Cure of Umbilical Hernia. (*Lancet,* August 2.)

A girl, aged fourteen years, who was hydro-cephalic and showed other signs of rickets, presented a large umbilical hernia, covered with ulcerations, the the size of a cocoa-nut, extending from two inches below the ensiform cartilage to within three inches of the pubes. Only a small portion was unreducible by taxis, which made the neck of the sac about two inches in diameter. After proper preparation she was chloroformed, and two elliptical incisions were made, including between them the ulcerated portion. The anterior portion of the sac was adherent to the skin, and had to be removed and thus opened. The irreducible portion was found to be omentum adherent to a portion of the sac. This was separated and returned into the abdomen. The neck of the sac was united by four copper wires, and then the integuments brought together by cat-gut, the copper sutures making their appearance between them in the line of the incision. All antiseptic precautions were taken. Twenty-four days after operation patient was chloroformed, the line of incision separated, and the copper sutures cut and removed. A month afterward the former umbilical opening seemed firmly and completely occluded.

Ploth (Stettin): Concerning a Case of Operative Removal of an Hygromatous Cyst of the Neck. (*Jarhb. f. Kinderh.*, B. xxi., H. 4.)

The case which illustrated this rare condition was a child who was born September 3, 1883. Soon after birth a tumor was observed under the chin, filling the space between the rami of the lower jaw. The skin which covered it was normal in appearance, the tumor itself appearing to be about two fingers' breadth in thickness. Six days after birth the growth was punctured in three places by the attending physician, and emptied of a clear, yellow fluid. It quickly refilled, and a similar operation was required upon the succeeding sixth and twelfth days. From this time the tumor began to grow rapidly, and when the child was twenty-five days old it was brought to the author's notice at the Stettin polyclinic. It was a well-developed child and in good condition. The tumor had now extended as far as the manubrium sterni, and fluctuated readily. The deep structures of the face and neck seemed to be entirely uninvolved. The tumor had two chambers or compartments. These were both punctured, and three hundred grams of clear, yellow fluid were removed. The fluid was rich in albumen, and coagulated spontaneously after standing a few minutes. The sac rapidly filled again, and some symptoms of inflammation also became apparent. Six days after the last mentioned operation the child was anesthetized and the tumor was again attacked, pus was withdrawn from its right side, and from the left the same kind of fluid as before, and in addition a semi-solid mass of a reddish-brown color, and as large as a chicken's egg. The cavity was then washed out with a two per cent. solution of carbolic acid, and stuffed with iodoform gauze. Suitable dressings and bandages were then applied. There was no febrile reaction, scarcely any discharge from the wound, and within a month, with the exception of a few small, hard lumps, on the left side of the neck, and an inconspicuous scar, all traces of the former growth had disappeared. This case demonstrates the necessity of radical operations in conditions of this character.

Campbell: Supposed Rupture of Kidney. (*Liverpool Medico-Chirurg. Jour.*, July.)

A boy, aged fourteen years, leaped over a hedge landing upon a lower level on the other side on his feet, but rolled over on his left side. He picked himself up and walked some distance not complaining of pain. When he made water it was very bloody, and afterward vesical tenesmus was very constant. He was driven eight miles to the nearest town, on arriving he had recovered from the shock. He had pain and "severe spasms" over left ureter and kidney. He was treated by rest, liquid diet, gallic acid and opium, and ice locally, which relieved the pain over the kidney. Next day the urine contained less blood. Sp. gr. 1022. Microscopical examination showed traces of broken tubules, no renal epithelium; there was a swelling over the site of the left kidney; temperature normal. Six days afterward the urine was clear; occasionally there was a slight trace of albumen. He returned to school in a month. Dr. C. thinks, perhaps, that the accident occurred by the kidney being pinched between the false ribs and the ilium, or that the weight of the kidney was sufficient to lacerate some of the vessels in the cortical substance.

Crittchett and Jules: Convergent Strabismus on Diplopia from a Scalp Wound. (*Lancet*, June 14.)

A boy, aged fourteen years, had sustained a severe scalp wound four days previously to being seen. He then had convergent strabismus and double vision. There was no loss of consciousness at any time. He recovered from the scalp wound, but the strabismus remained. It was at first attributed to paralysis, but on examination he was found hypermetropic (5 D), which was doubtless recent.

Paul: Congenital Sarcoma of the Kidney. (*Jour. de Méd. de Paris* [from *Brit. Med Jour.*, April 19, 1884], June 21, 1884.)

The pathological specimen was presented by the author to the Liverpool Medical Institution, having been removed from a child a year old in the course of an autopsy. The tumor began when the child was six months of age, and had reached such a size one month before his death that any operation would have been impossible. It originated in the left lumbar region, and filled almost the entire abdominal cavity. Its upper part was cystic, and from it had been removed with the aspirator about a pint of clear brownish fluid. Its lower part was solid, but imparted a sensation of fluctuation. Its weight was about six pounds, the total weight of the body being ten pounds. It was supplied by an hypertrophied and elongated renal artery. The cystic cavity appeared to have been formed by the softening of a clot. Under the microscope the recent portion of the growth was seen to be composed of embryonal and vascular, cellular tissue, analogous to the sub-cutaneous tissue of the embryo. The different stages of development of the cellular tissue were very clearly demonstrated.

Owen: Fecal Umbilical Fistulae. (*Med. Times*, August 2.)

Two cases (children) are reported as having been cured by the following method: The alimentary canal was thoroughly cleared by "purgative enemata," and then kept in a state of absolute rest by the continuous administration of small doses of opium. At the same time cod-liver oil was given. The fistulae were covered with a pad of dry wool and left undisturbed, healing taking place.

Free; Maggots in the Ear. (*Maryland Med. Jour.*, August 16.)

A boy, aged nine years, who had been complaining of ear-ache for three days was found to have maggots in the ear. Two were removed, but it caused so much pain that the others were first chloroformed, and then by turning the head on one side, and gently shaking it, they were brought sufficiently near the orifice to be seized with forceps. The animals were chloroformed by placing some cotton soaked in the anesthetic in the bowl of a clay pipe, which was placed against the ear and the vapor expelled by blowing through the stem.

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Original Communications.

WHO SHALL TREAT THE CHILDREN?

BY J. B. CASEBEER, M.D., AUBURN, IND.

It is a source of delight and congratulation for medical men everywhere, in looking over the field of medicine, to behold the general advance all along the line. The amount of scientific investigation now being bestowed on the different subjects and departments of medicine, and the earnest, honest discussing of subjects of vital importance to the profession, certainly promise advance in the future.

Notwithstanding the general forward movement, it is evident that some portions of the line need re-enforcements, some portion of the domain, more earnest laborers and more efficient work done, in order to make the advance universal,—and thus avoid errors and keep the honor of our noble profession unsullied and make it more efficient for good.

To my mind general therapeutics, especially as applied to the treatment of children or pediatric medicine, is one of those much neglected fields that is demanding the earnest attention of the profession, and while we remember that "the children are the hope of the country," let us seek to serve our country well by learning our whole duty to them, and gather all information we can to fit us to discharge that duty faithfully!

Come then, let us compare opinions, hear suggestions, and perhaps criticisms, and by honest, earnest, faithful work elevate pediatric medicine to that position its merits demand, and thus remove a stain from our professional escutcheon. Where is the intelligent physician, who has carefully inspected this part of our field of labor, but admits with regret that as a profession we are far behind our opportunities in this department?

What means this dissatisfaction and distrust and fear between the children and the physician? Why this hesitation and indifference on the part of the physician to assume the responsibilities of treating the children,—preferring to surrender them to and actually compelling (by their neglect) the "old women" and uneducated nurses to attend to that important duty? Is it the result of a conscious weakness?

Why, on the other hand, that fear, disgust, and refusal of the children (and sometimes their parents for them) to receive treatment at the hands of the regular physician? Ah! too well do they remember the nauseous doses, the force and deceit used, and the unfulfilled promises made to them that have staggered their confidence in both parent and physician; and all to get a dose of unpleasant, if not disgusting, medicine into their little stomachs.

It has been hard, indeed, for the little one to be sick and suffer the consequent pains thereof, but it has seemed harder to have the "Doctor" visit him, and still worse to take his medicine.

No wonder the affectionate parent has been calling the homeopath to treat the children in the past, for he at least gave them *pleasant potions,* even if there was little or virtually no medicine in them. I am happy to record a great reformation in the practice of the regular physician in his treatment of the children, especially, and that now he can make and sustain friendship with his little patients.

Thanks to intelligent investigation, inventive genius, the practical exercise of good common sense, or whatever it has been that has rendered it practicable to prepare our medicines and treat our patients in a way that is rather agreeable than otherwise, and that is proving so satisfactory and successful, that now the "*family physician*" is permitted to treat the children.

And why should he not?

If any part of the human family requires more careful and scientific treatment than another, it is the *children, and especially the babies.*

It is a wonderfully mistaken idea that has been stalking abroad that "anybody" is competent to treat the infants. No part of work requires so much care, science and judgment, as our labors with the children; and no part will give such prompt and good results, such satisfaction and success, as a rational and scientific treatment of the little ones. Here opens up a delightful but slightly cultivated field which challenges the careful attention of all true physicians. All are invited to enter and assist in cultivating its soil and removing the rank growth of error, skepticism, and failure, which we find preoccupying its surface.

Come, let us redeem it for humanity's sake and in the interests of the dear children.

What if it does require a little missionary work? What if it may require us to leave some of the old routes? What if it does discover some of our errors and mistakes and render it necessary to exchange some of our fossilized ideas for more fresh and modern ones?

Are we not willing to do all this, and more if necessary, that science may be established and humanity benefited?

Let us consult our better judgment, our conscience, and our convictions of duty, and, if they consent, then let us *engage for the work.*

In entering this field we are met at the very threshold with a few questions which demand our careful consideration. Some of which are as follows: Is there a similarity existing between children and adults? Are their anatomy and physiology similar? Have they similar organized systems of nerves, circulation, digestion, nutrition, respiration, and so forth? Are they endowed with organs similar in structure and function? with animal and vegetative life? with secretory and excretory glands? If so, are these combinations and systems presided over by the same powers and controlled by the same laws as are those of the adult?

If our verdict is in the affirmative to these questions, then others arise, and we ask: Are these organs and systems subject to similar derangements and discords in any degree? Are the children subject to diseases peculiar only to them, and if so, what are they, and why?

You will doubtless observe that it is of the utmost importance to settle these queries in our own minds—and to settle them correctly; for they become planks in the platform on which we plant ourselves—the tenets of our faith, the foundation of our superstructure, and the underlying principles of our practice.

If, now, with me, you decide these questions largely in the affirmative, that is, if you believe it is the same human organism in a different stage of development, subject to the same laws, the same derangements and diseases (except those dependent upon some physiological process in its course of development, as dentition in children or some organic disease of the adult after full development and perhaps over-use of some organs), etc.; then we set up the same physiological standard as the health standard, and regard as disease any material deviation from it either in the child or in the adult.

That settled in our own mind, then let us survey the field before us.

The medical student is taught and drilled differently and by different teachers and certainly is thus influenced —if not forced—to the conclusion that there is little or no relation existing between the "Practice of Medicine" and the "Treatment of Children."

We thus, as a profession, build up a wall of prejudice in the mind of the student in the beginning, squander valuable time for him by compelling him to climb over it, and afterwards, if he wakes up to the fact that the adult is but the grown-up and developed child and discovers their natural and proper relation, then he must "unlearn what he has learned amiss," and learn that he must treat the pathological conditions as indicated by the symptoms that exist in each individual case, no matter where his patient lives, what his name or age may be; thereby rendering it necessary for him to tear down the wall and clear away the rubbish and extricate himself from the errors into which he has fallen by supposing that in medicine but little relation existed, or, at least by misapprehending the true relation existing, between the *child and its parent.* If we start in the wrong direction, when do we expect to get aright? If our premises are faulty, what do we expect our deductions will be? Is it not rational to conclude that the practice of medicine should include the diseases and treatment of the whole human family? and *especially* on all the diseases to which all are alike subject? Let us illustrate:

Take, for example, a fever.

Suppose, now, we have a patient in each of the different ages from infancy to old age; all sick with the same fever; all are sick from the same cause; the same symptoms point unerringly to the same pathological conditions, the fever runs the same course, observes the same laws and works the same results—"*Like causes, like effects.*" I ask, would not the proper treatment for one be the proper treatment for all in the proper proportion? Should we inquire the age and strength for any other purpose than to proportion the dose and to ascertain the influence of existing conditions due to the stage of development in the different stages of life?

Ah! But you say it is impossible to get so many patients of the different ages manifesting the same symptoms and thus indicating the same treatment, even in the same disease, with similar surroundings. True. But it is just as possible and probable to find them in the different ages as to find the same number of the same age showing exactly the same symptoms.

If, now, the same pathological conditions, expressed in the same language, which we call symptoms, are not to be met in the different ages with the same remedy, then, please tell me, at what exact age are we to make the transition and draw our conclusions from the different stand-points—"children" and "adults?"

What is the year, month, day, and hour when either the physiology or pathology calls for different treatment? When is the exact time when the child ceases to be a child and becomes an adult?

Is it not as necessary to ascertain and provide for the exact time when we will make the distinction for "old age?" That period is certainly as different from the vigorous adult as is childhood.

To my mind the idea is preposterous. I maintain that the same remedies and treatment are appropriate to the different ages when similarly indicated. Exceptions may exist to this rule, as well as to all others; but if a medicine is known positively to work harm to the system in one age, should it not, at least, create a healthy suspicion that it might do more or less injury in other ages also, although not so readily recognized? The same arguments and conclusions are applicable to any of the diseases which affect the human family—paying due regard to the accidental surroundings, constitutional conditions, viability, power of repelling disease, mode of living, etc.

To my mind, the demand for different medicines for different ages is a tacit admission that the one or the other is faulty or dangerous.

If we dare not use the same remedy in the child in proportion to its development and strength, then I would seriously question the propriety of its general use with the adult.

I would, at least, regard it with enough suspicion to be ever on the alert lest my adult patient would prove oversensitive to its effects—for I have frequently found them as sensitive to effects of some medicines as are children—and *I* would feel *safer* in using remedies acting kindly with the human system at all ages.

In the vegetable kingdom I know of no period of development or transformation from the germ to the giant of the forest that has not the same demand or is not controlled by the same inherent laws, or does not require the same light, heat, moisture, and nourishment to keep it healthy and growing; so it is with the animal kingdom—the human species not excepted—from infancy to old age.

CONDENSED MILK FOR BOTTLE-FED BABIES.

BY BENJ. EDSON, M.D., BROOKLYN, N. Y.

The vexed problem of infant feeding has been so much discussed, and so often settled, that any further consideration of it at present would seem to be uncalled for. Admittedly this would be true, if out of the much that has been said and written any definite conclusion had been reached. But unfortunately this is not the case. There is still a wide diversity of opinion and great want of uniformity in practice, even among those who seem to have given much careful attention to the subject. I apprehend that what is now most wanted is not theorizing and speculation merely, but rather the results of actual experience in the use of the various substitutes for the milk of the mother.

It is too often the case that before the infant celebrates it first anniversary it has been made a victim, if not offered a sacrifice, to numberless experiments in the use of various kinds of milk and sundry foods, only too disinterestedly recommended as "the only perfect substitute for mother's milk."

In the country there is little trouble in providing satisfactory food for the infant. Good, fresh cow's milk can be readily procured, and this, with slight modifications, answers every purpose. But in cities and large towns such milk as can be obtained is not always fresh, uniform, and reliable.

Of the various farinaceous foods, Fothergill correctly and tersely says, "Farinaceous food and water are not a proper substitute for milk." Some of the prepared foods are indigestible, and positively harmful; others possess the negative merit of not doing much injury; and still others possess some real food value. It is observable that nearly all such foods are to be used *with milk*, and it is a not unfair presumption that the milk is really the most essential element of the preparation.

It should be observed also that most of the prepared foods are unreasonably expensive,—a matter of serious objection in an article intended for common use.

What is wanted is a food that is nutritious, wholesome, uniform, readily procurable, not unreasonably expensive, convenient for use, and that will keep fresh and sweet under all circumstances. The article that best answers all these conditions is *condensed milk*—not that usually served from wagons for household use, but that put up in tin cans and sufficiently sweetened to preserve it. This is the one point that I wish to emphasize in this instance, that in *canned condensed milk* we have an article that fully meets the ordinary requirements of bottle-fed children.

I am fully aware that writers and *quasi* authorities have very generally condemned this kind of milk, chiefly on account of the large amount of sugar it contains. Most of those who have admitted the value of condensed milk for infants have drawn the line between that sold in in bulk and that put up in tins.

Every experienced house-keeper knows that the condensed milk as delivered from wagons is not uniform. Not unfrequently it becomes unfit for use in less than twenty-four hours. For those who have occasion to travel it will be found difficult to transport and keep this kind of milk as desired. That in tin cans will keep sweet indefinitely.

The objections to the canned condensed milk seem to be theoretical, rather than based upon the result of actual experience. Theory has its proper place and serves its purpose, but in every controversy it must yield to the stern logic of facts. The chemist's analysis of a food may possess interest, may be of some utility, but it should be remembered that the human stomach is not a chemical laboratory, and that the physiological process of digestion cannot be formulated in mathematical demonstration. In short, *experience* must be the final arbiter as to the fitness and value of any material as an article of diet.

As regards canned condensed milk, I am not aware of any instances where it has been faithfully and intelligently used and proved a failure. I do not know of any series of cases in which any constant illness or departure from health has resulted. I have yet to learn of any disease produced by its proper use, or that it fails to sustain and promote the healthy and hardy growth of the infant. I think it remains to be demonstrated that pure sugar, in the quantity used in preserving condensed milk, is in any way unwholesome for the young child.

Dr. Phipson in the *Deutsche Amerikanische Apotheker Zeitung* for December, 1883, takes strong ground in opposition to the general prejudice against the free use of sugar as an article of food. In addition to the general argument, he refers to his own personal experience, that for forty years he has eaten not less than a quarter of a pound of sugar daily, and that his health has in no way suffered from its use.

During the past six or eight years in all cases coming under my care in which mothers have not been able to nurse their infants I have directed the use of Borden's Condensed milk, Eagle Brand; and in general condition, health, strength, and endurance, children thus fed have not fallen below the average of nursed babies. Indeed, I have come to consider it not one of the greatest of evils that a mother cannot nurse her child, for as betweeen an unhealthy mother or a wet-nurse on the one hand, and the bottle on the other, I certainly give the bottle the preference.

I have specified Borden's Eagle Brand because I am familiar with its use, but I see no good reason why the Anglo-Swiss milk may not be just as good, and doubtless there are other condensed milks that will answer equally well.

Nor is this my individual experience alone. I am acquainted with several physicians of large obstetrical practice whose experience and conclusions upon this subject are substantially those that I here express.

That there have been some instances where condensed milk has been tried and proved unsatisfactory, is doubtless true. It is equally true that in very many instances infants have not thriven on the mother's milk,—have either sickened or starved from causes that proved irremediable in the mother.

In the use of condensed milk intelligent oversight and pains-taking care are demanded to guard against gross errors in feeding. The invariable tendency is to prepare the food of too great strength, and to feed too much. No absolute rule for strength can be given which will be applicable to all cases and under all circumstances.

It would seem to be a work of supererogation at this day to dwell upon the minor details of preparing food for infants, but the obvious ignorance widely prevailing gives warrant for again saying what has been so often said. To begin with, a general direction may be,—

Condensed milk, 1 part.
Water (temp. 100°), 12-15 parts.
Lime-water, 1-2 parts.
Salt, a trace.

This may be modified according to circumstances, and as shall seem proper from the state of the digestion and the excretions. The increase in strength and quantity should be gradual until at the age of three months, an average child may take say—two tea-spoonfuls of milk, twenty of water, and from two to four of lime-water, every two or three hours by day, and somewhat less frequently during the night. In no case have I found it advisable to make the food stronger than one part of milk to ten of water, and in some few cases, for special reasons and for a short time, it has with advantage been weakened to one of milk to eighteen or twenty of water.

The eruption of teeth is a plain indication for the use of farinaceous and other more substantial foods, but for the first three years of life the diet of children should be essentially a *milk diet.*

The great number and variety of surprising mistakes that well-meaning mothers and nurses are capable of making—to say nothing of the lapses of those who are more or less indifferent respecting those under their charge—can scarcely be credited, except by those who have some experience in this matter. I have known mothers, despite positive directions as to quantity, to give at the rate of a twelve ounce tin of milk in less than two days. It is not rare to find the entire day's supply made up in the morning, in spite of positive directions to prepare the food fresh at each feeding. Indigestion and its various manifestations are the inevitable result of such unwisdom in preparing any food for children.

To those who have been groping in darkness and doubt for some satisfactory substitute,—portable, convenient, uniform, nourishing,—for mother's milk, I commend canned condensed milk, confident that, properly used, it will prove entirely satisfactory.

TREATMENT OF DYSENTERY WITH BISMUTH PER RECTUM.

Soon after the issue of the September number, containing an article on the above subject, by F. E. Waxham, M.D., of Chicago, I received a letter from A. Jacobi, M.D., of New York, calling my attention to a paper he published in the *American Journal of Obstetrics*, July, 1879, where, speaking of the local treatment of dysentery, he says: "In a number of cases, both mild and severe, where neither the usual astringents nor nitrate of silver appeared to answer, I have been very successful when resorting to injections of subnitrate of bismuth. The drug is mixed with six or ten times its amount of water; of this mixture from one to three ounces (30.0–100.0) are injected into the bowel, which has been washed out previously, twice or three times daily. The success was satisfactory, though a large portion of the injected mixture was soon expelled."

Clinical Lectures.

MICROCEPHALUS—HYDROCEPHALUS.

[Extract from a Clinical Lecture delivered at the Hospital of the University of Pennsylvania.]

BY HORATIO C. WOOD, M.D., L.L.D.,

Professor of Diseases of the Nervous System. Reported by William H. Morrison, M.D.

GENTLEMEN:—I bring before you to-day the case of a little child whom I have seen but a few minutes before the lecture. It is an example of microcephalus, which, being literally translated, means small-headedness. There can be no doubt that the trouble with this child is some arrest of brain development. Whether this arrest of development involves all parts of the brain, or whether it is localized, I am not prepared to say positively; but the fact that there is apparently no special impairment of any function, taken in connection with the comparative symmetry of the child's head, would indicate that the arrested development was general rather than local.

The causes of this arrest of development are very obscure. They are sometimes local and sometimes general. They are very frequently associated with the presence of epileptic fits. When the arrest is general, I do not think that epileptic seizures are so common. This child has never had fits. A year ago a child was brought to me as a case of simple epilepsy. I noticed, however, that these epileptic fits always commenced on the right side, and that many of the paroxysms were confined to that side. The attacks were excessively frequent. I also found that it had been impossible to teach the child to talk. My diagnosis was not simple, idiopathic epilepsy, but an arrest of development of Broca's convolutions on the left side. The epileptic fits increased in frequency, and the child died. At the autopsy, the position at which these convolutions ought to stand forth prominently, was found to be almost plane. The convolutions were in a condition of arrested development. The microscopical examination which was made failed to show the presence of any cortical cells.

In the present case, it is not one function which is impaired, but apparently all the functions of the upper brain are affected. I therefore think that it is a case of general arrest of brain development, especially of the upper brain.

There are some very interesting psychical features connected with this case. The child evidently takes a certain amount of notice. It sees. It cannot walk without having hold of something. When at home, if placed by the side of a table, it will continue to walk around this until its position is changed. It never asks for food or drink, but takes whatever is given to it. It is always contented when left alone. You can see that the upper functions of this child's brain are lacking, while the lower functions are present. There is the automatic life of the child here, but the psychical or upper life is wanting. This child apparently has no remembrance of the nature of food. It never expresses the desire of hunger, nor shows any indication of thirst. The food given it, it eats automatically.

I have seen the exact counterpart of this in an animal in the laboratory of Goltz, in Strasburg. The animal was a dog, whose cerebral convolutions had been removed by repeated washings. The operation is a very simple one. The skull is trephined in various places, and a stream of water carefully thrown on the brain, washing off the convolutions without disturbing the lower portions of the brain. Of course, in the large proportion of cases, the dog dies, but occasionally recovery takes place. Such an animal lives very much in the condition of this child, never calling for food, never giving indication of thirst, and remaining, when left to itself, happy, contented, and quiet. It would take the food which was brought to it, swallow the water placed before it, but did it in a purely automatic manner.

Perhaps some of you have heard related by Professor Allen or myself the story of the automatic life of the French soldier, wounded during the Franco-Prussian war. This man received a certain brain injury which reduced him to the condition of this child, except in so far as that man had had in the past a conscious life, the acts of such life had made an impression upon, and was remembered by, the lower basal nervous system. This child has had no mental experiences registered on its lower nervous system. It has apparently had very little real consciousness. But in the case of the soldier, the man had been perfect until he fell in a skirmish with a wound in his head. Afterwards he lived as an automaton. He never asked for food, but when his comrades went to the table he followed them, or was carried with the crowd and ate voraciously. He never showed signs of thirst, but took the water put before him. If a gun, or a stick shaped like a gun, was placed in his hands, he was instantly transformed into a wild, ferocious beast. Perfectly quiet the moment before, the possession of the gun instantly revived the memories of the skirmish in which he was wounded, and shouting, in French, "Forward! They are three to one; but come on!" he would rush forward and pass through all the movements of the battle in which he was wounded. If, in the midst of this furor, the gun was taken from his hands, the storm was arrested. There was no conscious memory, but a memory engrafted on the lower nervous system, and the contact of the gun, with the peripheral nerves brought forth memories of the old action. This child has a certain glimmering of this. It does not call for water, but when it sees others go the water-cooler, it knows that there is something there for it, and it points towards the cooler. In the case of the dog which I saw in Goltz's laboratory, the animal, when stroked on the neck, was calm, quiet, and tractable; but if you stopped stroking the back and dragged it by the tail, it would instantly fly into a paroxysm of fury, yelling, snapping, and jumping to its utmost strength. Not knowing who touched it, it would snap in all directions, without turning around far enough to bite the one who had hold of it. If the tail was dropped, and the animal stroked, it instantly became quiet and contented. This child is always good natured, and I think that this is very apt to be the case with microcephalic children. Its mother states that when the child is made ready to go out it claps its hands. It has, therefore, a certain consciousness.

Treatment.—In regard to treatment, I am sorry to say, that we can do nothing. The child has failed to develop, and there is nothing that can be done except to stimulate by training the nervous cells which are present. The best thing that could be done would be to send the child to the training-school at Media.

HYDROCEPHALUS.

Gentlemen, you now see by contrast, a case almost equally sad—an example, probably, of hydrocephalus. This is the first that I have seen of the child. It is either suffering from hydrocephalus, or else that rare disease, hypertrophy of the brain—but I think the latter improbable, as the head is too large.

This child is about three years old. The enlargement was first noticed at the age of two months. I have not time to enter into a full discussion of this subject, but I wish to call attention to a few interesting points. In the first place, let me tell you that I believe that we can probably explain these cases of chronic hydrocephalus as due to chronic inflammation of the lining tissues of the inner brain. The father states that this trouble followed an instrumental labor, and that the child lay in a condition of unconsciousness for two weeks after birth. Of course, I do not know anything about this individual case, whether instruments were required on account of some malformation of the head, or whether they were used when not required and so injured the head as to cause the present trouble. It is probable that the forceps were necessitated by the size of the child's head. I wish, however, to say here, that I believe the indiscriminate use of the forceps does produce a certain amount of brain trouble. Some, I may say many, obstetricians assert that the forceps can be used habitually without producing harm, and some physicians put on the forceps merely to save the woman a little pain, and the doctor a little time. I have seen so many cases of arrested development—of chronic meningitis—and of chronic hydrocephalus follow the use of forceps during labor, that I believe the pressure on the child's head, although not sufficient to produce immediate symptoms, may be the source of life-long chronic brain-trouble. I think that we are not justified in using the forceps without some sufficient reason.

As far as the symptoms are concerned, they are probably altogether the result of pressure. Probably that pressure results in a failure of brain development, so that the present symptoms are partly the direct result of pressure, and partly the indirect result. They are all symptoms of lack of power.

What shall be done in such a case? There are some who tap hydrocephalic heads. I, myself, have never tapped a case, and doubt that I ever shall. If done at all, it should be done early. The operation is justifiable only on the ground that a hydrocephalic child had better take the slightest chance of relief, as its life is not one to be preserved. I cannot recall an authentic case in which a cure has followed the operation. I cannot advise anything to be done in a case like this. There is no medicine which will affect this effusion. Some prescribe bandages, but I think that they do no good. If the pressure of the hard, bony skull does not cause absorption of the liquid, the pressure of a bandage will not do so.

NIGHT TERRORS IN CHILDREN.

[A Clinical Lecture delivered in the Post-Graduate Course, Jefferson Medical College.]

BY W. B. ATKINSON, A.M., M.D.,

Instructor in Diseases of Children.

We are told, gentlemen, by the mother of this child that she has had for over a year the habit of starting up in the night and screaming as though in a great terror. She is five years of age. An examination shows no signs of disease. Her appetite is good, she digests well, her bowels are regular, in short, she appears to be in excellent health. She has what is known as "Night Terrors," an affliction which is apparently quite well known in certain families, attacking in succession each little one as it arrives at a sufficient age to allow of the recognition of the trouble. Unfortunately, however, it is too often not understood by the parents, and we find those in charge of such children endeavoring by threats and chastisement to break them of what they regard as a bad habit.

Such children should be regarded as subjects for the exercise of the greatest kindness. I am firmly convinced that want of proper care and treatment of this affliction will lead in some cases to insanity more or less pronounced, to imbecility, and always proves injurious to the child's mental powers.

We often find it associated with nocturnal incontinence. Frequently the first symptom complained of is the "wetting of the bed." In fact, I have often had a child brought to my clinic for the relief of this symptom, and upon inquiry I would find that it also had this habit of starting up with loud screams as of terror, which the mother had regarded as of no consequence, save from the annoyance thus occasioned in the household. This incontinence of urine in most, if not all, cases, is, I believe, the result of the fright. As in hysteria, or in other forms of nervous disturbances, the sphincter vesicae gives way, and the contents of the bladder are thus involuntarily discharged.

I am satisfied that this ailment often commences at a very early age. Those who have opportunity for studying the cases of many children will find instances constantly occurring where even the young infant will scream out in its sleep and start up with every indication of terror, only to be quieted by fondling and the presence of some one whom it regards as able to protect it.

In some children it is seen even as late as the age of puberty, and in such cases the subject of it will experience the most unaccountable dread of the approach of night, or of darkness, and will gladly welcome anything in the shape of a companion.

The actions of its victims are very various under an attack. One child will spring from its bed and with fearful screams rush to a place of safety, it may be to its parent's arms, it may be to a crowded room, regardless of its scanty attire or any other matters. Another will walk without uttering a sound, with eyes wide open and face as if fixed in fear, and apparently walking in its sleep, yet on reaching a supposed place of safety it will convulsively sob and clasp hold tightly of some one as if fearing pursuit. A third will in its fear cover its head with the clothing and lie quivering in dread until it falls into an uneasy slumber, from which it wakes in the morning unrefreshed and with aching head.

The causes have been supposed to be the presence of worms in the intestinal tract, especially of that form known as "seat" worms, which by reflex excitement induce this nervous affection; indigestion, as when the child has been allowed to load its stomach with trash, or even with good food in too great quantity; nervous excitement in older children, as from foolish stories or injudicious reading; mental strain, as from too close study, or from cares beyond endurance at so early an age.

The prognosis depends greatly upon the length of time that the case has lasted, the causes when known, and the possibility of their removal, and the nerve powers of the subject. A child born of a mother of highly excitable disposition inherits to a marked degree its mother's infirmity, and when it becomes liable to such attacks is always difficult to cure; in some cases relief comes only after a long persistence in the appropriate treatment, or as the child grows to mature years, other nervous disturbances come in to supplant it.

The treatment will be, as in all cases of disease in children, to follow the indications, and act accordingly.

Always try to prevent an attack by insisting upon a light supper of easily digested food. Avoid all stimulants, as coffee or tea, for the evening meal. Let the child sleep in a room sufficiently lighted, that the eye may not be compelled to strain its powers in the endeavor to make out each object in the room. It must be remembered that in a dim light even a well known object frequently takes on a weird uncanny appearance. The child should be covered with clothing sufficient to preserve a natural warmth, yet not overburdened, as this alone will make it restless and liable to sleep imperfectly, thus predisposing to an attack.

Should an attack occur, soothe it in the kindest manner. Never by harsh words or blows endeavor to subdue the excited condition. It is far better for the mother or nurse to lie down by the child, and by such presence enable it to sink into slumber with a feeling of confidence and safety.

The general treatment will be in this case the exhibition of bromide of potassium, say five grains in a drachm of syrup simplex every four hours.

Note.—This child returned at the end of ten days so much improved that the mother declared it perfectly well. The child had ceased to exhibit any restlessness, and no longer screamed at night.

As I told you at the outset, in all cases of diseases of children it is advisable only to prescribe for indications. Generally a most excellent tonic for children is a combination of phosphoric acid and iron. In these cases such a tonic is usually required and proves of value. Where evidence exists of a general want of tone I order—

℞—Potas. bromidi, gr. L.
Ac. phos. dil.
Tr. ferri chlor. aa., f℥ij.
Syr. limonis.
Aquae, aa. f℥jss.

M. Tea-spoonful every four hours for a child from three to five years of age.

You will remember that I prefer in all cases of children's diseases to begin with a small dose and increase its frequency or its size as indication may demand.

The treatment where this affection seems to be connected with parasitic trouble will be adverted to as such cases occur.

Clinical Memoranda.

A CASE OF PROGRESSIVE PERNICIOUS ANEMIA IN A CHILD AGED TEN YEARS.

BY H. C. HAVEN, M.D.,

Physician to the Children's Hospital, Boston.

The following case is reported on account of the rarity of recorded instances of this disease in childhood. The history is not complete, in that there was no microscopical examination of the blood, nor was the ophthalmoscope used.

The symptoms and course of the disease, together with the *post-mortem* appearances, leave, however, it seems to me, no doubt as to the correctness of the diagnosis.

Laura V., aged ten, entered the Children's Hospital July 8, 1884. Being an adopted child, no family history could be obtained.

She had always been considered in vigorous health. Had measles and pertussis at six years. Digestion weak at times. Present illness began six weeks before admission. Pallor of face, dyspnea, muscular weakness, soreness over sternum, occasional blueness of lips and fingers, occasional vomiting and diarrhea, swelling of the feet, and hemorrhage *per orem* were the principal symptoms, occurring in the order given.

Condition on entrance: Considerable muscular weakness, occasional precordial pain, dyspnea, and palpitation on exertion. Appetite and sleep good. Bowels loose. No cough.

Physical examination: Extreme pallor of skin and mucous membranes. Skin clean. Teeth sound. Chronic pharyngeal catarrh. No marked emaciation. Weight, 26,440 kilogrammes. No enlargement of liver, spleen, or heart. Lymphatic glands not enlarged. Pulse very weak at wrist, but regular in volume and rhythm. Apex beat in fifth interspace in mammary line. Auscultation negative as regards lungs. A soft, low-pitched, systolic murmur heard at apex, slightly transmitted towards axilla. Loud, venous hum heard in the neck.

Examination of the urine: Negative.

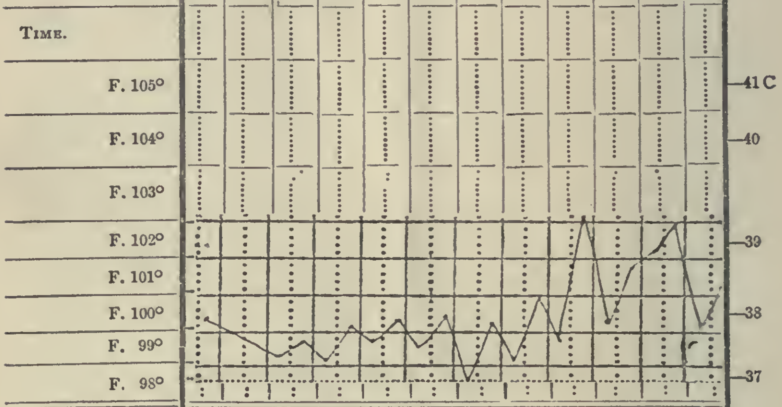
Treatment.—Absolute rest in bed. Nutritious diet at frequent intervals in small quantities. Tartrate of iron and potash and tincture digitalis.

July 14. Weight, 27,850 kilogrammes, a gain in six days of 1,410 kilogrammes, or about three pounds. General condition, slightly improved.

July 16. Child apparently improving, except for slight diarrhea. Tincture ferri chloridi substituted for tartrate of iron and potash. The last two days the child has sat up a short time, but does not feel as well for it. Physical examination shows apex-beat outside nipple. During the day, quinine and wet-pack given to reduce the temperature; quinine not retained. No marked change in the condition of the child occurred during the next two or three days, beyond rapidly-increasing and alarming prostration, and failure of the heart's action, with occasional vomiting.

JULY, 1884.

		8	9	10	11	12	13	14	15	16	17	18	19
DATE		8	9	10	11	12	13	14	15	16	17	18	19
DAY OF DISEASE		43	44	45	46	47	48	49	50	51	52	53	54
PULSE	Morning			88	104	108	102	84	88	94	112	140	146
	Evening			102	94	110	108	96		130	138	140	160
RESP.	Morning			28	27	26	28	20	24	20	22	24	26
	Evening			20	26	26	28	26		22	24	26	36
MOTIONS	Morning		1	1	11	1	1	1	11	1111	111		
	Evening					1	1	1	1	11	11	1	



Death occurred on July 19th, at 7.45 P. M.

Autopsy (thirteen hours after death).—Body, that of a fairly well-nourished and developed child. Adipose tissue not markedly wasted. *Rigor mortis* slight. Extreme pallor of skin and mucous membranes. Ecchymoses over anterior and external aspects of tibiæ.

On section: Thoracic organs appeared very anemic.

Blood fluid and light in color. Considerable, reddish, serous fluid in pleural cavities—120 ccms. in left, 150 ccms. in right—no adhesions.

No enlargement of mesenteric glands, liver, or spleen. No affection of Peyer's patches. Lungs normal in appearance. Bone-marrow not examined. Small sub-pericardial and sub-pleural hemorrhages. In the left ovary was a small cyst filled with a bloody fluid.

The heart and kidneys, with sections of liver and spleen, were sent to Dr. Gannett, pathologist, for farther examination, who reports as follows: The heart and kidneys are in a condition of fatty degeneration, the former more extremely affected than the latter. This is shown both by gross appearances and by microscopical examination. Such appearances are usually found in connection with poisoning by phosphorus, arsenic or antimony, and in progressive pernicious anemia.

It will be seen that the clinical history of the disease is very similar to that of progressive pernicious anemia in adults, as are the *post-mortem* appearances.

By elimination; the diagnosis of progressive pernicious anemia is the only one that will explain the symptoms of death, and, the *post-mortem* examination, as far as it goes, confirms the diagnosis. The extreme pallor, the great weakness, the fever of an irregular type, the marked increase of body-weight—half a pound per day during the first six days in the hospital, the absence of glandular swellings or enlargement of the liver and spleen, the fatty degeneration and hemorrhages, all point positively to progressive pernicious anemia.

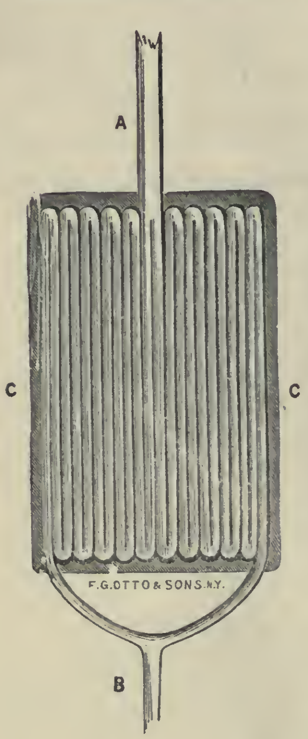
The case is of interest—assuming it to be one of progressive pernicious anemia—as being of rare occurrence in childhood. We have yet to learn if the course of this disease is modified by the conditions of early life.

Kjellberg, in the *Archive für Kinderheilkunde,* 1884, reports a case occurring in a boy of five years of six weeks' duration, and quotes a case reported by Quiche in 1876, occurring in a girl of eleven. He refers to Quiche's case as the first on record, and quotes his own as the second and youngest case on record. Kjellberg ignores, or is unfamiliar with, a carefully observed case occurring in a girl of eleven, reported by Dr. E. H. Bradford in the Boston *Medical and Surgical Journal* of October 22, 1874. Although there was no autopsy in Bradford's case, the course of the disease and the microscopical examination of the blood leave, it seems to me, little doubt as to the correctness of the diagnosis. In this case, too, the course of the symptoms was the same as in adult life.

A FEVER-COT FOR INFANTS.

BY WILLIAM PERRY WATSON, A.M., M.D.

Recently in a case of high and long continued fever in a young infant, where it was desirable to retain the functions of the stomach for proper nourishment, I devised and used the cot herewith illustrated. It consists of rubber tubing securely fastened to sheet-lead. The tubes A and B are respectively the receiving and discharging tubes. The water received by the tube A passes, when the coolest, through the center of the cot, where the heat from the little patient's body is the greatest, and is finally discharged from the outside tubes CC through B. The tubing used can be of any size and the lead of any thickness desired, but the lighter each is the more pliable will the cot be in moulding it to the body of the patient. I am now using it on an infant seven weeks old, where it is completely wrapped around the body of the patient.



The degree of cold applied can be regulated at pleasure by the temperature of the water received by the tube A, and by the amount of clothing on the child or covering over the rubber tubing.

I consider this cot more applicable, less formidable, and more valuable for these young patients than the rubber-coils now so much used in continued high fevers in adults. In critical and selected cases with a temperature of 106° F., not readily reduced by other means, I carefully give the cold-water douche, and, when the temperature is reduced, place the patient on or in this cot, where the temperature can be kept at any desired point.

Current Literature.

1. HYGIENE AND THERAPEUTICS.

Aufrecht Magdeburg) **: The Treatment of Acute Nephritis.** *Jahrb. f. Kinderh.* [from *Berliner Klin. Woch.*, 51, 1883], B. xxi., H. 4.)

The author has held the opinion, published in 1879, that diffuse nephritis, and inflammation in general which is connected with acute parenchymatous nephritis, does not require the use of either diuretics or diaphoretics, or, in fact, medication of any character to any great extent, but the patient should be kept in bed until the last trace of albumen has disappeared from the urine. This will require from three to eight weeks, and during that time only the simplest diet should be given, for example, soups, oat-meal, carbo-hydrates, and fats. At the end of the second week milk may be given, and a little later *bouillon* may be added. The separation of nitrogenous elements from the renal circulation is thought to be a decided means of irritation to the renal epithelium. This plan was tried by the author upon a boy, eight years of age, who was suffering with an acute parenchymatous nephritis, with retention or suppression of urine for eighty hours, and the result was entirely satisfactory. Warm, but not hot, baths, may be useful once or twice a week during the course of the disease; very hot baths and hot packs are not thought to be required.

Roig y Bofill; Is Syphilis Propagated through the Medium of the Placenta? (*Revista de Ciencias Medicas*, August 25, 1884.)

The conclusions in regard to the pathogeny of congenital syphilis are varied with different authors. By some it is held that the principal means of transmission is with the father, others consider that it is with the mother, still others hold that the fatal influence is exercised equally by each. The resumé of the opinions of all parties is encompassed in the following propositions: 1. A syphilitic father may beget a syphilitic child. 2. A fetus may be developed *in utero* without infecting its mother. 3. A syphilitic fetus may, in other cases, infect its mother. 4. A mother who is syphilitic before conception may give birth to a syphilitic child. 5. The mother may be infected by the same *coitus* by which she is impregnated. 6. A mother who conceives while in a state of perfect health may contract syphilis during the early months of pregnancy, and transmit it to her offspring *in utero*. 7. The infection which occurs during the second half of pregnancy is less intense in its effect upon the fetus, and yields more readily to treatment. 8. A healthy fetus may contract syphilis while passing through the genital canal at parturition, this form of syphilis being denominated by Fonssagrives *syphilis obstetrica*. 9. A woman impregnated by cohabitation with a syphilitic man may give birth to a syphilitic infant, though she may not have contracted the disease herself.

Aubert: Hygiene and Prophylaxis of the Diseases of the Intestine in Young Children. (*Rev. Mens. des Mal. de l'E.*, August and September, 1884.)

Much of this paper is of peculiar interest to inhabitants of France, for whom it was written. Its conclusions are of universal interest, however, and are as follows. When one meets with a child who is suffering from diarrhea, dysentery, or cholera, it is necessary (1) to ascertain from the parents concerning his diet, and to order good milk, either pure or diluted, for him, according to his age, as an exclusive diet, or to direct a return to breast-milk if the disease has come on at the time of weaning. (2) If the disease persists after continuance of the milk diet for several days, give him an appropriate quantity of subnitrate of bismuth with lime-water, and if required, a small quantity of a suitable preparation of opium. (3) If dysentery be established give only a milk diet, or milk with a small quantity of raw meat. Cover the belly and extremities of the patient, if an infant, with cotton, and keep him in a room with a mild and uniform temperature. If the condition of the intestines does not improve after all necessary hygienic precautions have been taken, enemata must be given, first of a laxative, then of an astringent character; starch-water may first be used, and then a solution of nitrate of silver. (4) If there be enteritis of a choleriform character, revulsives to the skin are considered a useful means of treatment; internally raw meat and Malaga or Port wine should be given. To prevent the inanition and marasmus, which are so apt to accompany diseases of the intestines in children, hygienic influences rather than those of medication should be relied upon, and (1) the diet should be exclusively of milk until the sixth month of life. (2) After that period tapioca or arrow-root may be added, at first once a day, and during the seventh month twice a day. (3) Weaning should not take place during the evolution of a group of teeth, nor in very hot weather. (4) The operation of weaning should be a very gradual one. (5) Milk should continue to be the principal accessory means of alimentation until weaning is complete. (6) With the completion of weaning one may give eggs, bread, weak soups, bouillon, fish, finely cut meat once a day, and for drink, milk or water, no wine, tea, coffee, or highly spiced foods. Great discretion must be used in reducing the number of daily feedings. After weaning there should be two principal and two auxiliary meals daily. The more generally these ideas are diffused by the profession, and the more closely they are regarded by the mothers concerned, the greater the chance of reducing the present high rate of mortality among young children from intestinal diseases.

Hughson: Note on Hypodermic Injection of Morphia in Convulsions of Children. (*Amer. Jour. of Obstetrics*, October.)
A boy, two years old, was brought by his father to the doctor's office, having been in convulsions for about an hour. Valerian, cold cloths to head, and sinapisms to back of neck and extremities were applied without avail. In a short time the child was totally unable to swallow, and appeared to be rapidly sinking into a dying condition. As a last resort about one-fifteenth of a grain of morphia sulph. was injected into his arm. In ten minutes he was quiet, and in twenty minutes was sleeping nicely. He had no return of the convulsions and made a good recovery. The doctor has determined in the future to resort to this treatment in severe cases. The hypo-

dermic use of morphia in large doses in puerperal eclampsia is believed by many surgeons to surpass the ordinary treatment by venesection, chloral, and so forth.

Clark: A Letter on the Subject of Hypodermic Injection of Morphia in Infantile Convulsions. (*Amer. Jour. of Obstetrics*, November.)

Three cases are reported. In the first a child of four years eight months had one-twelfth of a grain of morphia sulph. administered subcutaneously. Seeing no effect in twenty minutes, one-sixth of a grain was given in the same way. The convulsions soon ceased, but the child died in about a week of meningitis. Second case, child three years four months; one-sixth of a grain of morphia hypodermically; convulsions almost immediately ceased. The child died the next morning in another convulsion. Third case, baby two months old; one-sixth of a grain of morphia hypodermically; convulsions ceased, and the baby made a good recovery. Fearing an overdose, a little belladonna was administered, but the doctor thinks that in the convulsive condition an extraordinary tolerance of opium obtains. One-fourth of a grain of morphine is not too much to administer subcutaneously to a child two years old in convulsions. This will not be apt to need repeating.

Kanlich: Facts Concerning the Acute Exanthemata. (*Jahrb. f. Kinderh.* [from *Prager Med. Wochen.*, 24, 25, 1883], B. xxi., H. 4.)

The author agrees with Panum, Mayer, and others, as to the duration of the incubation stage of measles, placing it at thirteen to fourteen days, and regarding the disease as readily transmissible during the stage of the prodromal catarrh. As to scarlet fever, only one exact observation was made, but in this the duration of the incubation stage was eight days. The author agrees with Hebra that the incubation period of small-pox lasts fourteen days, and that the disease is communicable during the fever of invasion. During the incubation period of scarlet fever, the patient may be entirely free from symptoms of disease; but in the severe forms of variola, and especially in measles, this early stage is marked by certain symptoms of constitutional disturbance, such as lassitude and swelling of the lymphatic glands. Regarding the irritation of the brain in the course of the acute exanthemata, there may be convulsions during the period of eruption in scarlet fever, which, after frequent repetition, may end in a fatal drowsiness. Usually, however, the convulsions cease with the beginning of the eruption. Among the complications which occur at a late period in exanthematous diseases may be mentioned hydrocephalus externus and internus, and meningitis. The latter disease may be announced by symptoms of irritation or depression, or by paralysis. Should it occur with measles, it is often associated with pneumonia of a severe type; with scarlatina it may be associated with nephritis and uremia, and usually has a fatal termination; with variola it is infrequently associated with pyemia and septicæmia. A noteworthy complication of scarlet fever is hypertrophy and paralysis of the heart, associated with nephritis, the cause being the interference with the renal circulation and the retention of excretion material. In such cases we observe a slowing of the action of the heart, extension of the interval between the first and second sounds, and lengthening of the second sound. In regard to the existence of measles and scarlatina, without eruption, the author has seen well-defined cases of these types. As to the recurrence of the disease in the same person, the author has seen one case in which scarlatina occurred twice, one case in which measles occurred four times, four cases in which it occurred three times, numerous cases in which it occurred twice. The shortest interval between two attacks was one year. He thinks it quite possible for two exanthematous diseases to co-exist in the same person, one coming somewhat later than the other, however. Nourishment should be as liberal as possible during diseases of this character; indeed, life may often be saved by this means alone.

Treatment.—When the disease is associated with brain disturbances, the author recommends the use of large doses of quinine. In cases of high temperature, half-baths and repeated envelopings with the pack at 20° C. are recommended. In cases of scarlatinal nephritis, the hot bath and pack will be useful to produce sweating. Warm baths should be regularly given as soon as the disease has begun to abate.

Miguel: The Relative Abundance of Micrococci in Mountain Air. (*Jahr. f. Kinderh.* [from *Semaine Méd.*, Oct. 11, 1883], B. xxi., H. 4.)

An interesting description is given by the author of the experiments of Pasteur, made in 1860, in which he endeavored to ascertain facts relating to the presence of micro-organisms, at different elevations, upon Mount Jura and Mount Montanvert, the latter being 2,500 meters high. Twenty small balloons, filled with a sterilized fluid, were exposed to the air upon Montanvert, then sealed, and opened several weeks later. Only one of them showed the development of spores. In 1863 Pasteur's experiments were repeated by Joly, Pouchet, and Musset, but were not verified, and these investigators finally announced their belief in spontaneous generation. Tyndall followed a similar line of investigation upon the Altelsch glacier, but obtained no micro-organisms. Young found the air upon the lake of Geneva and in the Rhone valley as rich in micro-organisms as that upon the canals in Paris. The author (Miguel) made careful investigations with air from the Bernese Alps, the Thun valley, and Paris, for purposes of comparison, with the following results. The air from the mountains at an elevation of 2,000 to 4,000 meters, represented absolute freedom from bacteria. That from the lake of Thun, at an elevation of 560 meters, was to the former, in bacterial contents, inversely, as zero (0) to eight (8). That which was taken from Parc Montsouris (Paris), was to the pure, mountain air, inversely, as zero (0) to seventy-six hundred (7,600). That which was taken from the Rue de Rivoli (Paris),.was to the pure, mountain air, inversely, as zero (0) to fifty-five thousand (55,000). Hence, the greater the elevation, the purer the atmosphere, and the freer from bacteria. This is thought to be an important consideration in respect to the establishment of *sanataria* for children.

2. MEDICINE.

Rendu: On Epistaxis in Children. (*Rev. Mens. des Mal. de l'Enf.*, August, 1884.

The author presented two patients at his clinic, at the Hôpital des Enfants-malades, suffering from epistaxis, which was of severe character, and which was a symptom of general disease. In the first case, a boy, there had been bleeding for three consecutive days. The heart was hypertrophied and showed mitral insufficiency, and there were pains in the joints. These latter symptoms were, of course, the most important, and indicated an attack of rheumatism, of which the epistaxis was premonitory. In the second case, a young female child, there had been bleeding on four successive days, and there was also slight elevation of temperature. The examination of the mouth revealed small, red points, which suggested an impending attack of measles. On the following day, the characteristic cutaneous eruption of that disease appeared. The following are the causes of nasal hemorrhage. It may be due to inflammation, but this happens rarely. It may be caused by polypi, whether fibrous or mucous; rarely it is caused by the presence of a foreign body. It not infrequently occurs with paroxysms of whooping-cough, and with the eruptive fevers, especially with measles. It is also frequently observed in connection with diphtheria, and with diseases of the liver. In many cases it is impossible to refer the trouble to any definite cause. It has been frequently observed that epistaxis is frequent among those who are of a rheumatic diathesis. On the other hand, it is rare among the scrofulous. The prognosis, in this condition, depends, of course, upon the quantity of blood which is lost, and the cause which produces it. It is very noticeable that a child who is weakened by frequent nose-bleedings is especially susceptible to any prevailing disease, and is very apt to have it in a severe form. Epistaxis in plethora, and in certain other conditions, is often of favorable import.

Treatment.—For treatment, cold compresses may be applied to the neck, the arms may be elevated, and cold or astringent local injections may be employed. Opium will sometimes stop the flow by its sedative action. The tamponade of the nares will be required as a last resort.

Tiffany: Acute Laryngitis Accompanying Measles; Death. (*Maryland Med. Jour.*, August 16.)

A boy, having measles, during the stage of the eruption suffered from well-marked laryngeal stenosis. No membrane could be seen. When nearly dead, tracheotomy was performed (the skin being stitched to the trachea), which immediately relieved the symptoms. He died some hours afterwards from capillary bronchitis.

Ignatieff: A Case of Abdominal Typhus (Typhoid Fever) in a Child Nine Days Old. (*Jahrb. f. Kinderh.* [abstracted], B. xxi., H. 4.)

The subject of this paper began to be affected upon the sixth day of life with frequent and offensive evacuations, the temperature also undergoing moderate elevation. Subsequently there were cyanosis and bloody evacuations, and on the third day of his illness the child died. The autopsy revealed the following: Weight 3,400 grams; skin slightly jaundiced; navel normal; the brain and its membranes were congested; the lower lobules of the lungs were hypostatic, the upper ones anemic; the right side of the heart was dilated; the liver was enlarged, congested, and brittle; the spleen was enormously enlarged, congested, and firm, with its malpighian bodies swollen; the contents of the intestines were fluid, and in the large intestine rather bloody; the mucous membrane of the intestinal canal was swollen, and ecchymotic; the large intestine presented swelling and ulceration of the follicles; in the lowest portion of ileum there were swelling and ulceration of Peyer's patches; the solitary follicles were also swollen and covered with necrotic tissue, but not ulcerated; the mesenteric glands were swollen and hyperemic; the kidneys anemic, and the umbilical vessels obliterated. The conclusion which was reached was that the intestinal trouble could be regarded as nothing else than typhoid, as to its character. This is the seventh recorded case of typhoid in the new-born infant. Unfortunately nothing could be ascertained regarding the etiology of the case, but the probabilities point strongly toward uterine infection.

Litjar: Parrot's Disease. (*Revista de Ciencias Medicas,* August 25, 1884.)

This morbid condition is more generally known under the name of syphilitic pseudo-paralysis. It is not of frequent occurrence, and before the time of Parrot, who described it carefully, it was confounded with infantile paralysis and other kindred affections. Its characteristics are general or partial inertia of the limbs, leading to luxations, fractures, and rheumatism, and it was supposed to be due to an incurable lesion until the recently published cases of Millard and Roques testified to the contrary. Millard's case was that of a girl, two and a half years of age, whose father had contracted syphilis two years before his marriage, but was supposed to have been cured. The child manifested *inertia* of the left arm, and the case was believed by M. Roger to be one of infantile paralysis. There was no evidence of hereditary syphilis in the entire body, and it was only after two weeks of observation of the existing paralysis, and the pains which accompanied it, that the suggestions of Parrot were recalled, and the child was placed upon antisyphilitic treatment. A month's treatment sufficed to remove the active symptoms of the disease, but medication was continued until the child was six years of age. In the case of Roques a new-born infant presented a pemphigoid eruption and labial lesions, which were syphilitis in appearance. The mother was apparently healthy, and the father denied syphilitic antecedents. Antisyphilitic treatment for several weeks resulted in a disappearance of the cutaneous manifestations, but at the age of two months paralysis of the two upper extremities occurred, with pain and crepitation at the upper end of the humerus. The disease was then recognized as Parrot's, antisyphilitic treatment was resumed, and the child when two and a half years seemed to be perfectly well. This condition shows the importance of the most searching inquiry into the family history of all suspected cases of this character, and even then a correct diagnosis may not be made, from the failure of the parents to communicate all the facts. The mothers of infants thus affected should nurse them if possible, and specific treatment, as in the cases cited, should be continued for a long time. If the child is unable to bear this treatment it must obtain the medicine through the milk by which it is nourished. An occasional sublimate bath, one gram of the mercury to each bath, will also be found effective. If this treatment is followed the author believes that the prognosis need not be so grave as was announced by Parrot.

Kirk: Sporadic Cretinism in Scotland. (*Lancet,* August 23.)

The histories of five cases are given, which are interesting in regard to the probable connection of myxodema with this disease.

Case I.—A boy, aged twelve years, but who only appeared three years, was the fifth child of healthy parents, neither of whom had any inherited diseases, and both strictly sober. There was no history of any goitre amongst their relatives. The other children, of whom there are five, are all healthy. The mother, during the gestation of this child, had severe abdominal cramps almost daily. When this infant was born, he was large, stout, and apparently an unusually fine child. He was half as large again as any of her previous children at birth. She soon observed that he was very sluggish, always bent forward, and slept a good deal; he seldom cried, and did not smile like other children; his skin was always cold. He did not grow taller; did not walk until he was five years old, and then with a feeble, tottering gait, the slightest obstruction overturning him. He did not get all his teeth until seven years old, when he also made some rude attempts at speaking. At the present time he is enormously swollen, weighs fifty-seven pounds, is three feet in height; around the head he measures twenty and one-half inches; the anterior fontanelle has not yet closed. His face is as round as it is long, dull, and expressionless. eyelids puffy; nose small, depressed at the root, elevated at the point, the alæ but little expanded; ears, thick and doughy-like; lips, thick; neck, thick and short, the skin pending in large folds from the lower jaw; the supraclavicular swellings are well marked; the outline of the trachea can be distinctly traced by the fingers, apparently indicating absence of the thyroid body; hands, short, swollen, clumsy; abdomen, very protuberant, communicating a feeling of resistance and solidity on pressure; girth, twenty-nine inches; legs, short; girth of thigh, sixteen inches. He is extremely broad in proportion to his height; is a marked example of myxodema. The skin is sallow, not translucent; the cheeks are a little ruddy, but do not show the pink spots of adult myxodema; the exposed parts of the skin are cold, smooth, not furfuraceous; if some parts of the skin are gently rubbed, a sharp, grating sensation is felt, like that of sand-paper. The backs of the hands are wrinkled. There is slight lordosis of the lumbar spine; the tibiæ are also slightly bent at their lower portion. He never sweats, and the secretion of sebaceous matter seems to be arrested. The hair on the scalp is very scanty, dry, and brittle; nails, thin and brittle. His first set of teeth are still present, and are good, except some of the back ones; the front teeth are black, with wide spaces between them. Pulse, 76; respiration, 32; temperature, 98.8°; urine, specific gravity 1025, normal, amount 10 ounces. He eats and drinks very little; sleeps twelve hours out of the twenty-four. His speech is confined to single words mostly; intonation, very nasal; is fond of music and can hum a tune; all his senses are good.

Case II.—A boy, aged eleven years, and the fifth child, the father being of a family of nine, all healthy. His father was perfectly healthy, but his mother had a goitre. Two of her sisters also had goitre. His appearance and history resemble No. 1 somewhat, but yet there are such differences as to make him more of a cretinous type than the former. He is two feet seven inches in height, weighs thirty-seven pounds; measures around his head, twenty-one inches; girth of abdomen, twenty-four inches. The soft parts of the body are not much swollen; neck, very short. The thyroid body could not be detected. The supra-clavicular eminences were but slightly marked.

Case III.—A boy, aged ten and a half years, the first child of strictly sober and healthy parents; was apparently lifeless when born, but was resuscitated. The three other children are healthy. His history differs from Nos. 1 and 2, in that he was not slow and never swollen, nor slept more than usual. Present time: Height, two feet eleven inches; weight, not ascertained; twenty and three-quarter inches around the head; twenty-three and one-half inches round the abdomen. He has two lower incisors of the permanent teeth. The thyroid body could be felt on the right side and over the isthmus, but not on the left side; no trace of supra-clavicular swellings. There is free furfuraceous desquamation of the skin. He speaks pretty well, but his intonation is nasal; he can even read a few words. Never sweats except in hot weather; taken very little food. He walks much better than the other two cases.

Case IV.—A man, now aged thirty-four years; was the third child of healthy parents. The other children, of whom there are eight, were all healthy but two, who had goitre. He was an extremely beautiful infant, "having a fine pink flush on his cheeks and ears like wax." After some time his complexion became sallow, and he grew very slowly, cutting his first teeth very late. He began to walk at seven years, and made feeble attempts to articulate when ten years of age. The neck is the only part of his body which has not been swollen; here he has a double goitre. He is now four and one-half feet high; weight, not obtained; twenty-one inches around the head. Head, trunk, and limbs are fairly proportioned. Except a slight doughiness of the ears, there is no sign of myxodema about him. He is emaciated; skin soft and free from desquamation; articulation, nasal, very indistinct; never could be taught to read, write, or do any work. All the senses are good.

Case V.—A girl, aged fourteen years, the youngest sister of the foregoing, is four feet in height. She is fairly proportioned, can walk well, though weak in her legs. She has made some progress in her education. She presents the general characteristics of her brother, but not to so marked a degree. She has a goitre on the right side. The older sister (and oldest child) of the two foregoing, died at the age of thirty-two years from dyspnea, not looking more than twelve years. She was in a worse condition than her brother.

Dr. K., in conclusion, gives a very interesting comparison of these cases and the bearing of them upon myxodema. He says: "It might almost be said that the myxodema of adults is but a single and stereotyped form of disease, which admits of numerous modifications, only to be found and studied in cretinism. The apparent connection of cretinism with goitre on the one hand, and yet the existence of facts which have suggested an antagonism between the two, on the other; the greater liability of females to the former and of males to the latter disease; the special susceptibility of women to goitre at the climacteric period of life and after confinement, and to atrophy of the thyroid and myxodema in the same circumstances —these are all facts probably connected by some yet hidden and secret links.

Thalberg (St. Petersburg): **A study of Cases of Corneal Gangrene Associated with Conditions of Inanition.** (*Jahrb. f. Kinderh.* [from *Arch. f. Augenb.*, B. xii., H. 3], B. xxi., H. 4.)

The paper is an analysis of thirteen cases of very young children, nine of them varying between two weeks and two and one-half years of age. The most of them were nursing infants who had been greatly reduced by poor nutriment, the mothers being anemic and suffering from want of food. The disease usually began with a xerosis of the conjunctiva of the bulb of moderate intensity, the cornea quickly losing its lustre and becoming cloudy, and breaking down into a soft yellowish mass, the process being the more intense in proportion to the wretchedness of the child's condition. In three or four days the tissue of both cornea usually became necrotic, and then followed phthisis of the bulb or staphyloma of the cornea. If the general condition of the child were not very bad, and it received good care, the gangrenous process sometimes came to a pause, the clouded cornea became clear, and only a small peripheral spot, and prolapse of the iris remained. The author observed even in older children both mild and severe grades of xerosis of the conjunctiva of the bulb, sometimes surrounding the cornea in the form of a ring at the end of a long period of fasting (*e.q.* Lent), and saw the same disappear without leaving a trace when suitable nourishment was resumed. In the treatment of gangrene of the cornea good results were obtained by the use of eserine-vaseline ointment (eserine .05 gram, vaseline 8.00 grams) applied from one to three times daily. In addition a bandage was used with a four per cent. solution of boric acid and chlorine water.

Herschel: Functional Disturbances of the Eyes following Diphtheria of the Fauces. (*Jahrb. f. Kinderh.* [from *Berl. Klin. Woch.*, 1883], B. xxi., H. 4.)

The disturbances of vision which follow diphtheria, in so far as they depend upon paralyses of the motor portion of the optical apparatus, have been observed many times from the days of Donders, and a knowledge of them is a common thing. The author has been in a position, however, in cases in which the proof of pre-existing diphtheria was not always conclusive from other sources to discover disturbances of accommodation and a narrowing of the field of vision, which could only be referred to changes in the perceptive portion of the optic apparatus. Such a condition obtained in a girl, ten years of age, in whom asthenopic trouble had begun so that she was able to read with the left eye only Jaeger No. 11, and that with great difficulty. Ten days later she could read only No. 6, with both eyes, and soon afterward the energy of accommodation became still more feeble. Further, the movements of a hand before her eyes fixed in straight-forward vision, upward, downward, and sidewise, were not perceived. All evidences of irritation were wanting, and the retina appeared to be normal. Soon after this the power of accommodation improved and with it the field of vision became enlarged, so that in three and one-half weeks the condition was normal again. Twelve other cases which were examined with Foster's perimeter gave evidence of disturbance of accommodation of a diphtheritic character. Four of them showed concentric limitations of the field of vision, without susceptibility to dazzling illumination. In all the cases the accommodation trouble was not exaggerated, there was no central scotoma, nor disturbance in the sense of color. The treatment which was recommended for the diphtheritic paresis of accommodation consisted in the use a one-half per cent. solution of salicylate of physostigma by instillation once or twice a day. No curative influence can be expected from eserine. Among French writers preparations of belladonna are highly esteemed.

Kinnier: Remarks on Otorrhea in Children. (*Amer. Jour. of Obstetrics,* November.)

Purulent discharge from the ear is one of the most common symptoms of aural disease. Otorrhea comes on gradually with little pain, and although the smell from the discharge is sometimes very offensive, it is frequently allowed to continue for months. As one of the causes of otorrhea we may mention catarrhal condition of the meatus and tympanum, in which inflammation may spread to the mastoid cells, and finally the brain. The prominent symptoms are rigors, tongue very furred, rapid pulse, increase of temperature, and pain and swelling of the parts around the ear, which parts assume an erysipelatous appearance. The history of an illustrative case is given in which a strumous child, aged six years, had an inflammation of the meatus and tympanum of left ear, which spread to the mastoid region, producing an abscess. This was repeated several times, when finally a polypus was discovered in the meatus, which was removed by the wire-snare. Eventually there was recovery in the mastoid region, but the membrana tympani was perforated, and hearing destroyed. Many cases of mastoid inflammation ought not to go on to suppuration if properly treated. The plan of treatment adopted on detecting pain or tenderness over the mastoid region and around the ear is, first to paint a strong solution of nitrate of silver (ʒss to ℥j) or several layers of equal parts of tincture iodi and lini iodi, or with pot. iodi cum sapone, having previously applied leeches if much swelling and redness exist, and subsequently follow up the treatment with warm fomentations or poultices containing a little opium. As regards the treatment of otorrhea by dry powders, the plan adopted is to cleanse and dry the ear well with a piece of cotton-wool twisted upon the end of a grooved ear probe, then with an insufflator introduce into the meatus whatever powder seems suitable for the case; a small quantity of cotton-wool is then lightly placed in the meatus to prevent the powder falling out. This treatment is renewed night and morning. The practice of stuffing the meatus with various powerful astringent powders, pushing the powder firmly in by means of some small instrument, and then closely packing with cotton, cannot be free from danger. The various powders used are boracic, tannic, and gallic acid, alum, iron-alum, copper, lead, zinc, and so forth. If the wet treatment is preferred, the various astringents may be used; boracic acid in the proportion of one drachm of the acid to an ounce of rectified spirit makes a very nice lotion, or carbolic acid and sulphate of zinc, four grains of each to an ounce of water, or a saturated solution of boracic acid in hot glycerine, or glycerite of tannic acid. The following are a few good lotions:

℞—Acid. carbol., gr. iv.
Sodæ bicarb, gr. xij.
Sodæ bibor., gr. xij.
Glycerine, ʒss.
Aquæ, q.s. ad. ℥i.

Ft. lot. ad aurem.

℞—Zinc oxide.
Bismuth oxid., āā **gr. v.**
Glycerine, ʒss.
Aquæ, ad. ℥i.

In connection with the above treatment great benefit will be obtained by the use of the Politzer bag.

Plath (Stettin): Hyperplasia of the Lateral Choroid Plexuses in Congenital Internal Hydrocephalus. (*Jahrb. f. Kinderh.*, B. xxi., H. 4.)

The case concerned a girl, three years of age, in whom congenital hydrocephalus was very pronounced. The child was illy nourished when received into the hospital, was imbecile, and could neither stand nor walk. The circumference of the head was fifty-four centimeters, the trachelo-bregmatic diameter was twenty centimeters, the occipito-frontal sixteen centimeters, and the bi-parietal ten and five-tenths centimeters. The fontanelles were large, the greater having a length of five and a breadth of four centimeters, the lesser a length of three and a breadth of two centimeters. Openings between the cranial bones were still perceptible. The child also suffered with a soft cataract in each eye, nystagmus and dacryocystollenorrhea upon the right side. Three weeks after coming under the author's observation it died from marasmus. The autopsy upon the head revealed the following: The calvarium had a thickness of three millimeters, and the dura mater was firmly adherent to its inner surface; through the cortex of the cerebrum fluctuation was plainly perceptible; from the lateral ventricles were evacuated four hundred cubic centimeters of clear fluid upon the right side, and five hundred upon the left; the cerebral ganglia were flattened out; the ependyma of the lateral ventricles was smooth, moist, and shining; the third and fourth ventricles and the aqueduct of Sylvius were moderately dilated, and the floor of the third ventricle was thinner than normal; the brain was firm in consistence, but anemic, and weighed ten hundred and thirty-one grams; the middle choroid plexus was thin, as well as that portion of the lateral plexuses which extended from the foramen of Monroe to the posterior horn. At this point there was a thickening of the plexus on both sides as large as a walnut, soft, and of a reddish color, and seemed to be composed of countless fibrils with shallow interspaces. Microscopically nothing abnormal was discovered. The tumors were simply an hyperplasia of the choroid plexuses, but were probably the cause of the hydrocephalus. No similar case has been found upon record.

Adams: Sudden Death in Diphtheria. (*Amer. Jour. of Obstetrics*, August.)

The author considers that sudden death is not invariably due to paralysis of the heart. The history of a case is given in which a boy, sixteen months old, died suddenly on the twelfth day after the beginning of the diphtheria. From the symptoms observed the doctor concluded that his patient's death was due to a paralysis of the lungs, or in other words, paralysis of the vagus. In order to understand how death might be produced by the destruction of the function of either heart or lungs, it is necessary to study the nerve-supply of these organs in a physiological sense. The following are the generally accepted views, according to Landois; First as to the nerves of the heart. The plexus cardiacus is composed of the following nerves: 1. Ramus cardiacus of the vagus trunk and the branch, of the same name, from the ramus externus of the superior laryngeal, of the inferior laryngeal, and sometimes also from the plexus pulmonalis of the vagus—more often on the left side. 2. Of the ramus cardiacus superior, medius inferior, and minus of the third cervical and first dorsal ganglia of the sympathetic. 3. The inconstant branch, the ramus descendens hypoglossi, which is said to originate from the first cervical ganglion (Luschka.) From this plexus pass out the deep and superficial nerves; the latter, as a rule, receive a ganglion at the division of the pulmonary artery under the arch of the aorta. We can distinguish as going out of this plexus: *a.* Plexus coronarius dexter and sinister (scarpa) which contain the vasomotor nerves, and also descending fibres. *b.* Nerves lying in the grooves and in the substance of the heart, which are richly provided with the ganglia (Remak), which we recognize as the automatic motor centres of the heart. A ring of nerves rich in ganglia borders the edge of the inter-articular septum; another is found in the auriculo-ventricular margin; where these meet they interchange fibres. The ganglia are situated principally near the pericardium. By further analyzing the complex functions of this nerve-supply, we find that there are accelerator, automatic excitor, inhibitor, and vaso-motor nerves with presiding centres. The action of the accelerator centre can only be tested after division of the splanchnics. The heart has within itself automatic centres, probably in its ganglia. These centres are connected with each other. They are regulated by the chief centre, which is in the cord. By irritation these centres are stimulated into spasmodic action. The dominant centre is in the auricle. The centre of cardiac inhibition (vagus) is seated in the medulla. The fibres of the vagus, when moderately irritated, diminish the number of heart beats, strongly irritated arrest them. They are from the spinal accessory. This centre is acted on directly and reflexly. Directly: 1, sudden anemia of the medulla; 2, sudden venous hyperemia; 3, increased quantity of carbon dioxide in the blood; 4, during inspiration: 5, increased blood pressure in the cerebral arteries. Reflexly: 1, irritation of sensory nerves; 2, irritation of cerebral end of the cut vagus on one side; 3, irritation (blow on the sensory nerves of abdomen). It is generally acknowledged that the vaso-motor centre is situated in the medulla near the calamus scriptorius. Irritation of this centre produces constriction of the arteries and rise of blood pressure. It is directly excited by: 1. The composition of the blood as regards its gases; an excess of carbon dioxide produces constriction of the blood-vessels, and engorgement of the veins and heart, whereby the rapidity of the flow is increased. Reflexly excited by: 1. Pressor nerves which increase the vaso-motor action, inferior and superior laryngeal, trigeminus, cervical, sympathetic, and any sensory nerve of the body (Lovin). 2. Depressor nerves which inhibit the action of the vaso-motor centre. Paralysis of the vaso-motor nerves causes the heart to contract slowly and feebly, the reverse when the vaso-motors contract the blood-vessels. Paralysis of the sphlanchnics may so fill the abdominal vessels with blood that death may result from anemia of other organs. The phrenic, spinal, spinal accessory, and vagus nerves are the principal ones concerned in the mechanism of respiration. Le Gallois recognized that the respiratory centre must be contained in the medulla. This centre is bilateral, and can be separated by longitudinal section, and therefore respiration is performed symmetrically on both sides. When a vagus trunk is cut respiration is slowed on that side; on double section bilateral respiration is the same. Irritation of the cerebral end of a cut vagus stops the respiration on that side. On transverse section of one centre, respiration stops on that side. This centre is composed of two alternately acting centres, one inspiratory, the other expiratory. It is automatic. Its excitability depends on the quantity of oxygen and carbon dioxide in the blood; hence we have apnea, empnea, dyspnea, and asphyxia. Dyspnea may be caused by: 1. Any agent preventing the action of the respiratory organs, as stenosis of the air passages, pneumonia, and so forth. 2. Prostration of the circulation, as heart disease, obstruction to the flow of blood from the brain, and so forth. 3. Hemorrhage. Irritation of the peripheral end of the cut vagus stops the heart and also the respiration for a short time, because of anemia of the medulla. It must be recognized that if paralysis of either the cardiac, respiratory, or vaso-motor centres takes place, death quickly follows. These three centres are situated in the medulla. Their powers of resistance must be different, for only one seems to be affected at a time. Whether this sudden overpowering of the centre which causes the sudden dissolution is due to the millions of micrococci, to a specific unknown poison, or to an individual idiosyncracy incapable of combatting with the ordinary diphtheritic poison, remains to be discovered.

Sturges: The Non-Rheumatic Origin of Chorea. (*Lancet*, September 20.)

The writer sums up the experience of the last ten years at the Great Ormond Street Children's Hospital as follows: The total number of chorea cases was 219; of these sixteen had rheumatic fever, twenty-five to twenty-eight pains presumably rheumatic, and twelve were without information upon this subject. This makes a proportion of only twenty per cent., hardly more than a third of which cases were those of acute rheumatism. The author gives the results of his investigations to ascertain the proportion of rheumatic among the non-choreic patients. The cases were graded in three classes: (1) Those who had joint pain only; (2) those who had pain with swelling of the joints; (3) those who had in addition to the last mentioned symptoms at the time of examination a cardiac murmur. Of the first series of eighty-eight patients, six had had joint pains and swelling; three others had in addition a heart murmur; three more had had joint pains without swelling, and three gave a history of indeterminate joint pains. Excluding the last group, there are left twelve in eighty-eight patients with evidence of rheumatism. Of the second series of eighty cases, five had joint pains and swelling and a heart murmur; two had joint pains and swelling; nine had joint pains only, and one other had a heart murmur. He concludes that at least fifteen per cent. of the one hundred and sixty-three non-choreic patients were rheumatic. The proportion of rheumatism in the choreic being, as above stated, about twenty per cent. The author believes it impossible to represent rheumatism any longer as the grand fact and basis of chorea. Only when this is admitted, and rheumatism takes its proper place as only one among many agencies predisposing to chorea, if not directly producing it, can a rational pathology and a rational treatment be reached. The author seems to hold the use of drugs in very low esteem in the management of this disease. He relies upon general hygienic treatment including rest, bodily and mental, good food, country air, patience, and encouragement. He reports uniformly good results by this method.

Lee: Whooping Cough. (*Medical Press and Circular*, September 24.)

In a clinical lecture Dr. Robt. J. Lee showed a case in an infant, seven weeks old, in which the disease seemed to have been carried by a third party. A woman whose child was suffering from the disease visited a family in which there was an infant four days old. Exactly ten days from that time the first symptoms of the disease showed themselves. No other exposure could be discovered. Attention is called to the fact that in very young infants the whoop is a very rare symptom from the reason that such a child cannot "vocalize a whoop." Diarrhea as a complication is emphasized. It is usually attributed to other causes than the whooping cough. He has lost all faith in specifics for the disease. For the laryngeal spasm he relies chiefly upon local measures, than which none is better than the inhalation of carbolic acid in combination with the oil of pine and the compound tincture of benzoni. The bromides and belladonna seem to diminish the paroxysms for a time, but in serve cases no great benefit is derived from them.

3. SURGERY.

Collier: Acute Intussusception; Recovery. (*Lancet*, Aug. 30.)

A male infant, aged eighteen months, previously well, while lying asleep in his mother's arms, suddenly became convulsed and appeared in great pain, screaming loudly and struggling. After this had lasted a few minutes he began to strain violently, passing wind and bright, bloody slime. Since then, he had been crying and straining occasionally. He was seen the following day, and was much collapsed. Pulse, 100; respiration, 30; temperature, 100°. Skin, cold and sweating; abdomen, tympanitic, except in the right inguinal and hypogastric regions, where there was an elongated mass, which could be seen as well as felt.

Treatment.—Chloroform was given, and warm water injected into the rectum. When about twenty ounces had been passed in, the tumor could be felt slipping away, and by the time forty ounces had entered, it had disappeared. Three hours afterward, feces were passed in the stools. The child made a good and rapid recovery.

Fitzmaurice: Cerebritis; Death; Autopsy. (*British Med. Jour.*, Aug. 30.)

A boy, aged seven years, was beaten on the head by a young girl with her closed fists or the open palms of her hands. The boy ran home and complained of severe pain in his head. He was put to bed, but passed the night screaming and tossing about with extreme pain in the frontal region. On the following morning there was no improvement—the parents attributing the trouble to fright, nervousness, and toothache. He was not seen until a week had passed, when he was found lying on on his back, very irritable when touched or asked questions; pupils, widely dilated; pulse, 60; respiration, 24; temperature, 102° F. He had vomited when first taken sick, but not since; bowels, constipated; abdomen, retracted; *tache*, not well marked; tongue, clean.

Treatment.—Cold was applied to the head, except when the temperature went so low that it had to be removed; sinapisms to the calves and feet; calomel and jalap were given as purgatives; the bromides, belladonna and ergot were also prescribed. He died on the twenty-fourth day.

Autopsy.—No external wound; no discharge from the ears; brain membranes congested, especially at the base, with inflammation of the brain substance; ventricles, full of serum, but no pus was found.

Churchill: Etiology of Spinal Curvature. (*Med. Times and Gazette,* August 23.)

Mr. Noble Smith, in a lecture before the International Health Exhibition Conference, expressed the opinion that spinal curvature and other similar deformities were most frequently caused by "faulty attitudes, induced by badly-constructed seats and desks at school, together with want of sufficient and proper exercise, especially among girls." Mr. Churchill does not agree with him, and says: "To focus the blame for this distortion almost entirely at the door of the modern school-mistress, is to show an imperfect conception of the multiple causation of the deformity." * * "If we adopt Mr. Smith's argument, we should expect to find an increase of curvatures of the spine among upper-class young ladies, and especially those who go to boarding-schools." * * "Home-taught young ladies, with plenty of sofas to lie on, and other *articles de luxe,* ought to be, relatively, free from such deformities." Mr. C.'s experience is in a precisely opposite direction. He finds that the children of the poor are blessed with more solid backs and larger bones, yet these suffer far more than the elegant, spider-like bodies of the "upper ten." "And why? Children with broad chests have wide pelves with prominent iliæ. The spine, therefore, is relatively at a greater distance from the iliac crest, where all burdens have to be borne, and so the lateral ligaments of the spine yield to the leverage action of the many burdens which are carried by poor children on the side opposite to the curve." The hygienic derangements of the London slums require no comment as to their baneful influence upon the rising generation. Curvatures of the spine in upper-class society occur much less frequently, and may be traced to children having a general laxity of ligamentous structure, to infantile causes of degeneracy, scrofula, rickets, and other inherited diseases and parental follies.

Lindner: What Influence Does the Discovery of the Tubercle Bacillus Exercise Upon the Teachings Concerning Granulating Inflammation of the Joints. (*Jarhbuch. f. Kinderh.*, B. xxi., H. 1 and 2.)

The term granulating inflammation of the joints is considered by the author in the sense in which it is used by Hueter, as synonomous with fungus, fungous inflammation and arthrocace, and it is so denominated because of its resemblance in some respects to the granulation tissue which is produced in the course of the healing of a wound. Köster observed that, as a rule, tubercle was found in this tissue; and this being present, it is either the first localization of tuberculosis in the body, or else it is one of the phenomena of general tuberculosis. With the discovery by Koch that tuberculosis was a parasitic disease, great hopes were entertained that these joint inflammations might be successfully treated by appropriate anti-parasitic agencies. The method of Hueter, of injecting suitable solutions of carbolic acid into the joints, was advocated by him and his followers with great enthusiasm, even before the discovery of Koch. Both this and the method of intra-ossal injection, which it was thought would be especially favorable among children, have proved inefficient. The same may be said of the method of igni-puncture, for which so much was expected, and the conclusion is reached that when a large joint is diseased in its totality, recovery can be expected only by the removal of all the diseased tissue. If only a portion of the joint is diseased, Volkmann's operation of opening the joint and scraping away the diseased mass with a sharp spoon, or burning it with the actual cautery, may be successful in some cases, but its extended usefulness is thought to be problematical. The medicinal treatment of the disease by large doses of arsenic, according to Buchner's recommendation, has yielded no success in the author's hands, and he considers the treatment by salt and brine baths as irrational and useless. There remains only the purely surgical procedure of resection, and the author thinks that this should be done, and the diseased synovial membrane be thoroughly removed as early in the history of the disease as possible. The possibility of any bacteria remaining to do further damage demands thorough work and strict antiseptic precautions. In conclusion, and in answer to the question which was propounded in his title, the author considers that the surgical pathology of the process under consideration has been little influenced by the discovery of the bacillus tuberculosis; but also that this discovery has placed us in position to try a series of therapeutical means with great certainty as to their positive and rational value. In this latter sense, the influence of Koch's doctrine upon a very important disease is very great and very beneficial.

Bribach: Aphasia Traumatic Cured by Trephining. (*St. Louis Courier of Medicine*, September.)

A strong, well developed girl, aged eight years, was kicked by a mule on the head. She was stunned for a few minutes, but recovered herself, walked a short distance and then was brought in a wagon to the office. She was seen one hour after the injury. Examination showed a compound depressed fracture two inches long situated a little anterior to left temporal. A portion of the scalp and occipito-frontalis tendon was wedged in the fracture, making it necessary to give chloroform in order to dislodge it. When she came from under the influence of the chloroform she was found to be aphasic. The following day, there being no sign of compression but the aphasia continuing, the depressed portions of bone were elevated, the trefine being used. The dura mater was found uninjured and the inner table free from spicula. In about twelve hours she began to speak, and the next day she had fully recovered the use of laugague. The wound healed readily. The parts of the brain impinged upon were thought to be the third and ascending frontal and the ascending parieal convolutions of the left hemisphere.

Duncan: Report of a Case of Encephalocele; Successful Ligation. (*Amer. Jour. of Obstetrics*, September.)

Encephalocele is comparatively infrequent as a congenital malformation. It is a protrusion of the brain tissue from the cranial cavity, generally in the course of a suture or fontanelle when congenital, and in other situations when traumatic. Its size varies, and it increases gradually, becoming sometimes very large. There are two modes of its production, one is a congenital malformation, the other traumatic, viz., trephining, injuries, and so forth. At present only the congenital form is considered. Being situated in the course of the sutures and fontanelles it was supposed by the old writers to be due to deficient ossification, which is partially correct, though the real cause certainly is within the cranial cavity, and associated often times with ulceration of the duramater, as well as sometimes with cerebritis. In the great majority of cases reported the integument has been perfect, but in a few cases even that was wanting. Ordinarily the tumor is either in the occipital region or at the anterior fontanelle. It pulsates, bleeds freely if irritated, grows gradually if it is progressive, creates primarily very little, if any, general disturbance, but secondarily stupor, vomiting, and so forth. Especially does pressure upon it produce momentary coma and cerebral disturbance. Patients may die from asthenia, or directly from cerebral hemorrhage. At present in the treatment we are more prone to trust to nature for the excision of the tumor by ossification than we are to operative means. The earlier surgeons favored the use of the knife. In the case here reported, the child was first seen when seven weeks old. There was then a tumor, three-quarters of an inch in diameter, situated over the anterior fontanelle. The mass was not smooth, but regularly groved, pulsated, and had the characteristics of brain tissue. The mother had a long and tedious labor, and when she saw the child it had a small lump about the size of a split bean on the fore part of the head, bluish in color and smooth. This mass continued to grow larger. In about four months the tumor was about as large as an orange and growing rapidly. As grave symptoms were showing themselves the pedicle of the tumor was ligated, with immediate disappearance of all bad symptoms. The ligatures were reapplied on two occasions, when the tumor dropped off and recovery took place.

Norton: Gangliar Disease of the Joints. (*Med. Press and Circular*, September 10.)

This disease is a particular form of joint disturbance, different from scrofulous and rheumatic disease in its pathology, though resembling it in external appearances and symptoms. It is associated with the development of ganglia in the neighboring tendons, the ganglia communicating or not with the joint. Four cases are cited only, one being a child, a girl of two years, it being usually found in adults. In this patient the foot for five months has been swelled, and now there is a ganglion above the extensor tondons of the foot, which apparently communicates with the tarsal joint. All the joints of the foot are dilated, and the fluid enlargement extends to the sole. Mr. N. says, "It is a true destructive disease always and for a certainty terminating in ulceration of the bones, preferably the small bones of the carpus and tarsus. It never allows of improvement, although it may lie dormant for an indefinite period." It may extend over ten to fifteen years. It appears to arise spontaneously and not to result from injury. *Treatment.*—The ganglion must never be opened, except subcutaneously or aspirated. If destruction of the joint occurs amputation finally becomes necessary.

Epley: Spina Bifida Cure. (*Jour. Amer. Med. Assc'n,* September 6.)

A well formed female child, weighing about ten and a half pounds, presented at the third dorsal vertebra a tumor the size of a hen's egg, with a pedicle about an inch in diameter. The base of the tumor was corrugated and purple in color. At the site of its attachment there could be felt an opening in the vertebra the diameter of an ordinary lead pencil. Any manipulation of the mass caused the child to cry. The child could not be on its back without worrying, and was easiest when held upright. When three weeks old a clamp was put around the pedicle to see the effect produced preparatory to an operation. It produced a very moderate degree of convulsive seizures. The clamp was removed and two days afterward the pedicle was transfixed by a silk ligature and tied; the tumor was then removed. The child suffered considerable disturbance in its nervous system for several days, but it did not amount to convulsions. In nine days the wound was healed. It was treated antiseptically. The tumor on examination contained a small quantity of what was supposed to be "spinal fluid," the interior was lined with a serous membrane.

Galland: Excision of Knee-Joint; Recovery, with Good Limb. (*Lancet,* July 26.)

A boy, aged eight years, had been suffering for four years with chronic synovitis of the knee-joint, with deformity of the limb, the result of a fall. He went about only on crutches. Half an inch of bone, wedge-shaped in form, was removed from both femur and tibia before the leg could be straightened. The limb was put up in a posterior splint, bracketed at the knee. The padding was covered with carbolized, bees'-wax bandages, which were also used around the limb for a short distance above and below the joint. The remainder of the limb was covered with plaster-of-paris bandages, carried also around the pelvis. All antiseptic precautions were taken. Three dressings only were required. At the end of a month he could walk on the limb without using crutches. Some months afterwards, he was seen running around like the rest of the village boys. The bees'-wax bandages prevented the discharges from passing beyond the desired limits.

Ormsby: Acute Traumatic Malignancy. (*Lancet*, July 26.)

A boy, ten years of age, fell off some rocks at the seashore, striking his right leg about two inches above the tubercle of the tibia. It was treated by cold applications, rest, etc. Two weeks afterward, the pain in the interval never having ceased, the whole circumference of the limb began to swell, gradually becoming glazed with distended veins passing over it, the site of the injury having previously become very painful. He was unable to walk except on crutches. He was seen in consultation by several eminent surgeons, all of whom advised amputation. The boy's father was unwilling until some time afterward, when the boy had become much weaker. Amputation was performed at the lower third of the thigh. The disease was "fungus hematodes." Death occurred three weeks later from exhaustion, being within three months of the receipt of the injury.

The above case is one of several others in which a rapid malignant course set in after a traumatism. Dr. O. thinks that there must have been a tumor-forming diathesis present when the injury was received.

Macdougall: Neurectomy; Recovery. (*Lancet*, July 26.)

A boy (age not given), a few days previous to observation, had received a lacerated wound on the posterior and radial side of the wrist. Each time the wound was dressed he suffered a great deal of pain. There soon followed stiffness of the jaws and muscles of the neck. Temperature and pulse both slightly raised. Examination with a probe detected in the bottom of the wound a spot, on which, when pressure was made, a spasm of the arm and severe pain was caused, so great as to cause him to scream. Closer inspection revealed a nerve partially divided. The injured portion was exsected, and the boy's suffering ceased at once. Dr. M. says: "In all cases of traumatic tetanus, especially when attended by breach of surface, careful inquiry and examination should be made as to the existence of pain at the point of injury, as to tenderness in the course of the nerve-trunks leading to it, and as to the part in which the spasm commences." In cases of trismus these points are overlooked, which, by careful search, might frequently be discovered.

A Curious Case: Recovery from Membranous Croup and Whooping-Cough; Tracheotomy. (*Gaillard's Medical Journal*, September.)

A boy, eight years old, while suffering from pertussis, developed membranous croup. On the third day breathing was sterterous; features, purple and swollen. Tracheotomy was determined upon, but before the necessary preparations were completed the child ceased to breathe, although there was still a slight pulsation of the heart. The incisions were quickly made, and the tube inserted into the apparently lifeless child. The process of inflating the lungs was then commenced with forcible expiration and inspiration, until a long, sobbing breath shook the frame. After doing this repeatedly the breathing at last became involuntary. The child recovered after wearing the tube twenty-eight days. The pertussis was severe.

Mac Ewen: Osteotomy for Genu-Valgum. (*Lancet*, September 27.)

This paper was read as an introduction to the discussion of the subject before the International Medical Association. Schedules had been sent to the different hospital surgeons of Britain and reports had been received from thirty-seven who furnished statistics of 1,118 operations.

In regard to the method of operating it is stated that Ogston's was done by eleven surgeons, who operated on 525 limbs. Only three surgeons had followed this method exclusively.

Chiene's method was used in fifteen cases. Schede's method was used in five cases. MacEwen's operation had been performed on 580 limbs by thirty-three surgeons. Twenty-two had used it exclusively.

The next question referred to is that of accidents during the operation. Hemorrhage is mentioned in two of MacEwen's, in thirteen of Ogston's, and in one of Chiene's cases. The knife was broken off in the joint in one of Ogston's cases. Thirty-four surgeons used the spray and other Listerian precautions, while three operated by the open method. Suppuration occurred in forty-one cases, or a little over three and one-half per cent.

There were in all five deaths after MacEwen's operation. In three the operation was not credited with the result. One being from phthisis, one from scarlatina, and one from congestion of the lungs. Of the other two one died of septicemia, and one of blood poisoning; the latter although stated to have been MacEwen's operation was really not such.

As to utility of limbs, anchylosis followed in two of MacEwen's operations, in four of Ogston's (one with dislocation of the patella), and in one of Chiene's. In two of Ogston's bow-legs resulted after the operation, in all the others the result was good.

Relapses followed MacEwen's operation in four cases, mostly in young children. In one of Chiene's amputation was subsequently necessitated by gelatinous degeneration of the synovial membrane. The average duration of treatment has been from one to three months. Mr. Chiene alone keeps his patients in bed twenty-two days after the operation. His own operations are not included in the above statistics. Mr. MacEwen up to July 31st had performed eight hundred and twenty osteotomies for genu-valgum upon four hundred and ninety patients. The majority of the patients were adolescents. The operation was never undertaken unless the stage of ramollissement had passed. The supra-condyloid method alone was used in eight hundred and ten operations. In five cases Schede's operation on the tibia was combined with it and in the remainder some modifications of the supra-condyloid method was employed.

Adhering strictly to the anatomical lines laid down, he had never found it necessary to apply a ligature. All the operations were done under the spray and full Listerian precautions.

In eight cases, or less than one per cent., suppuration occurred. In six the cause was pressure or some extra force applied under accidental circumstances. In one case it was due to diphtheria of the wound. During the past three years not a single case has suppurated.

Two additional fatal cases are recorded. Both were weak adults. One had a phthisical history, and at the time of the operation signs of some consolidation at both apices. The deformity was very great in this case, and the operation was urged both by the patient and his physician that he might lead a more active out-door life. He died one month and two days after the operation of pulmonary tuberculosis. The genu-valgum wound had healed, but the bony union was weak.

The other patient had a rise of temperature on the twelfth day, which was followed by diphtheritic deposit upon a sore over the sacrum. This afterwards involved the wound, fauces, alimentary canal, and rectum. The patient died thirty-two days after the operation. The sanitary condition of the man was very bad. Several patients operated on for other affections were attacked, and enteric fever soon broke out as an epidemic.

These two added to the fatal cases formerly reported make five deaths in all; in none was the death apparently due to the operation. The only one which admitted of a doubt was the one last referred to.

In all cases there had been improvement in the form, strength, and utility of the limbs. The height of the patient had been increased, often several inches. There was abundant proof that the operation did not interfere with the growth of the bone. In many patients from eight to fifteen years of age the femora had grown in proportion with the rest of the body. One boy, aged eight years, measured before the operation, four feet in height, after it, four feet three inches; four years later he had grown to four feet ten inches.

He had seen occasional relapses in osteotomies for other deformities, but only one after an operation for genu-valgum. This was only to a slight degree. The average duration of treatment was six weeks in splints, and two more in the wards while learning to walk. Three months were ample to permit patients to return to their occupations. He had not sought to find what the shortest time was when the patient should be allowed on his feet, but strove to put it late enough so that no mishap should result.

Referring to the cases lately reported in several journals where hemorrhage has followed operation by the supracondyloid method from the popliteal artery or the anastomotica magna, he protests against the surgeon's bearings being taken from the patella, which is admitted in one of these cases. It is not a fixed point and does not bear a constant relation to the plane of the condyles in the deformed condition. The popliteal might be wounded, first, by using instruments broader than the diameter of the bone; secondly, by directing the osteotome from within outwards and backwards; thirdly, by holding the chisel loosely by the finger and thumb so that it slips. Suppuration is favored by the exercise of force either during the operation or after it by tight bandaging. The application of the elastic rod used to control hemorrhage during the operation may be made too tightly or too roughly. In any case where suppuration is feared it is safer to enlarge the wound and insert a drainage tube. It is stated that Mr. Lister always operates in this manner.

Strahan: The Evil Effects of Perineal Pressure from Bicycle Riding in Growing Boys. (*Lancet*, September 20.)

The writer reaches the following conclusions: The pressure upon the perineum whether it be continuous and increased at every jolt, or whether it be made up of jolts alone and be *nil* in almost imperceptible interval, must be injurious. It must cause irritation and congestion of the prostate and surrounding parts, tend to exhaust and atrophy the delicate muscles of the perineum, and also call attention to the organs of generation, and so lead to a great increase in masturbation in the timid, to early sexual indulgence in the more venturesome, and ultimately to early impotence in both. For support of the latter conclusion the "disease of the Scythians," and the impotence among the Tartars from horse-back riding are cited.

Smith: Incontinence of Urine from Malformation. (*Brit. Med. Jour.*, September 20.)

Only a brief summary of the case is given. The patient, a girl of thirteen, had suffered all her life from incontinence. The urine passed away constantly, and was never voluntarily discharged. Various forms of treatment had been adopted, but without benefit. On examination the wall of the bladder above the urethra was found deficient. A finger could be passed through the opening into the bladder and the mucous membrane exposed to the extent of an inch. From this enlarged urethra a sulcus extended upward dividing the clitoris into two parts. The skin was removed from the sulcus down to the mucous membrane of the bladder and the parts closed with sutures. After the operation the urine was retained naturally for three or four hours at a time, and only twice was there any incontinence and that during sleep.

ARCHIVES OF PEDIATRICS.

INDEX TO VOLUME I.

Abdominal Walls, Arrested Development of . . . 273
Absence, Congenital, of Nose and Eye . . . 377
  " of Jejunum, Ilium, and Part of Colon . . . 279
Abscess, Abdominal . . . 210
  " Cerebellar . . . 262
  " Orbital . . . 335
  " Perinephritic . . . 733
  " Pulmonary . . . 337
  " Retro-Pharyngeal . . . 104, 663
Alcoholism . . . 711
Amaurosis, Recovery . . . 528
Amputation, Arm . . . 411
  " at Hip-Joint . . . 537
  " Thigh . . . 600
  " " " and Leg, Same Patient . . . 378
Anemia, Pernicious . . . 319
Angiomatous Growths, New Treatment of . . . 289
Antenatal Influences . . . 461
Antiseptics, Use of Different Kinds of . . . 112
Anus, Atresia of . . . 729
Anus, Imperforate . . . 334
Aphasia and Hemiarpesis . . . 200
  " in Acute and Chronic Cerebral Diseases . . . 396
Apomorphia in Convulsions . . . 287
Apparatus for Chronic Joint Diseases . . . 670
Appendix-Vermiformis, Perforation of . . . 477
Artificial Feeding with Cow's Milk . . . 648
  " Human Milk . . . 709
Arthritis, Fungous, Treatment by Injection of Ethereal Solution of Iodoform . . . 317
Ataxia, Hereditary . . . 316
Atresia, of Anus . . . 729
  " " Bile Duct, Producing a tumor . . . 195
Atrophy, Acute Yellow, of Liver . . . 402
Bacillus, of Scrofula . . . 212
  " " Small-pox . . . 396
  " " Tubercle . . . 267
  " " Whooping-Cough . . . 396

Belladonna and Scarlatinal Rash, Diagnosis between 286
Blindness, Prevention of 525
Blood Discharges from the bowels 653
Bone, Tuberculous Disease of 183
Bromide of Potassium Eruption 458
Bromides 583
Bronchitis 565
Broncho-Pneumonia, Acute 164
Calculus, Membrano-Vesical 603
  " Vesical 178
  " " Lithotrity 332
Calomel, Minute Doses in Pneumonia 644
Cancer, of Kidney, Hematuria in 314
Cancrum Oris 476
Carbolic acid, Poisoning 286
Caries, Spinal 201
  " " Treatment 125, 246
Casein, Amount in Human Milk, and Remarks upon Feeding 216
Catarrh, Gastro-Intestinal 24
Cauterization, Tubular of Erectile Tumors 731
Cephalematoma, Congenital. Treatment of 9, 129
Cerebellum, Punctured through Occipito-Atloid Articulation 480
Cerebro-Spinal Fever 121
  " " Meningitis, Epidemic 527
Chinolin in Diphtheria 325
Chloroform Poisoning, taken Internally 108
Cholera Infantum 134
  " " and the Hydrencephaloid Condition 716
Chorea 460
  " Cutaneous Phenomena 324
  " Electrica or Electrolepsis 179
  " Galvanization of Brain in 57
  " Management of 283
  " Rational Treatment of 643
  " Various Forms of 525
Chyluria 58
Clay and Vinegar in the Pitting of Small-pox 588
Cleft Palate 198
  " " Remarks Upon 344
Club-Foot. See Talipes.
  " " Congenital 96, 261
  " " " Causes of 539
  " " Resistant use of Force in 340
  " " Treated by Osteotomy 408
Cod-Liver Oil, Inunctions with 198
Colitis, Pseudo-Membranous 447
Collapse, Pulmonary 284
Colon, Pistol-shot Wound of 732
Colotomy, for Absence of Rectum 606
Comedones 406, 661

Concussion, Cerebral . . . 61
Conjunctivitis Spring . . . 682
Contagious and Infectious Diseases, Advances and Discoveries in . . . 516
Convulsions . . . 1, 713
" Apomorphia in . . . 287
" in Pneumonia . . . 281
" Prolonged during Status Epilepticus . . . 502
" Salaam . . . 595
Cow's Milk . . . 648
Coxitis, Rectal Examination in . . . 321
Craniotabes . . . 444
Cretinism . . . 281
Croup (?) . . . 392
" and Croupous Angina treated by the Antiseptic Method . . . 383
" and Diphtheritic Angina, Rational Treatment of . . . 649
" and Diphtheritic Pharyngitis, Application of the Antiseptic Method to . . . 115
" Membranous, and Laryngeal Diphtheria, Identity of . . . 330
" Tracheotomy in . . . 10, 45, 545
" Treatment of Mainly Mercurial . . . 513
Cystotomy for Vesical Irritation . . . 195
Deaf Children, Education of . . . 515
Deafness a Sequel of Mumps . . . 719
Dermatitis Eczematous . . . 673
Dermoid Growths of Eyes, Congenital . . . 669
Diabetes, Insipidus, Treatment of . . . 517
" Mellitus . . . 208
" " in Early Infancy . . . 466
Diarrhea . . . 242
" a form of . . . 470
" Summer and Meteorological Influences Affecting . . . 581
" " Etiology, and Pathology of . . . 40
" " Hygienic Management of . . . 417, 481
" Treatment by Benzoate of Soda . . . 380
Diarrheal, Summer Complaints, Prevention of . . . 581
Diet, Infant . . . 136
Digestion, Infantile . . . 430
Dilatation of Bronchi . . . 724
" " Stomach . . . 119
Diphtheria (?) . . . 48, 392, 394, 658
" and Drainage . . . 127
" Anginosa and Croup . . . 649
" Dependence upon Fungi . . . 177
" Eruption in . . . 322
" Etiology of . . . 338, 394, 597
" " and Treatment . . . 337
" Incubation and Transmission of . . . 182
" Laryngeal and Membranous Croup, Identity of . . . 318
" Pathology of . . . 338
" Prophylactic Measures in . . . 176
" Sequel of, Inflammation of Joints . . . 318

Diphtheria Spread by Adults 717
" " of 191
" Statistics of Hospital Trousseau 321
" Sudden Death in 206
" Tracheotomy in 45, 345
" Treatment 206, 332, 456, 715
" " by Aconite 280
" " " Alcohol 520
" " " Chinolin 382
" " " Chlorate of Potassium 524
" " " Liquor Ferri Subsulphatis 523
" " " Mercuric Bichloride 62
" " " " Cyanide 116
" New Treatment of 451
" Treatment by Papayotin 323
" " " Pilocarpin Acetate of 41
" " " Quinolein 589
Diphtheritic Croup Treated by Solvents and Tracheotomy 285
" " Tracheotomy in 534
" Paralysis 63
Diplopia from Scalp-Wound 735
Diseases of Children, Diagnosis of 254
" " the Nursing Period from Faulty Nutrition, Dietetic Methods in 114
" " the Respiratory Tract, Prophylactic Measures in 643
" " the Skin 709
Dislocation of Femur, Congenital 123
Drainage and Diphtheria 127
Duodenum, Imperforate 593
Dysentery, Treatment of 586
" " by Bismuth per Rectum 576
Dyspepsia, Treatment of 384
Dyspnea, Expiratory, from Enlarged Bronchial Gland 33
Ear, Foreign Body in 701
" Maggots in 736
" Middle, Acute Inflammation of 689
Eczema 331
" Capitis, Treatment of 590
" Etiology of 39
Empyema 53, 343, 344
" Exsection of Part of Rib in 671
" as Sequel of Scarlatina 410
Emphysema, Mediastinal, and Pneumo-Thorax after Tracheotomy 186
Encephalitis, Congenital 195
Encephalocele 284, 602
Enchondromata of Upper Extremity 604
Enteritis in Hereditary Syphilis 596
Entero-Cystoma 607
Epidermic Scales from Scarlatina Patients, Discoveries in 324
Epileptic (?) Convulsions 276
Epileptiform Convulsion due to Intestinal Irritation 300

Epilepsy . . . 437
" Treatment of . . . 297
Epiphysitis . . . 348
Epulis, Congenital . . . 480
Erectile Tumors, Treated by Piazzia's Mixture . . . 731
Eruption of Bromide of Potassium, Microscopic Appearance of . . . 458
Eruption of Vaccinal Character with Dermatoses Provoked by Vaccination . . . 468
Erysipelas and Vaccination . . . 127
" from Chrysophanic acid . . . 207
" Infantile . . . 201
Erythema . . . 379
" Septic Exudation in . . . 322
Esophagus, Stricture of . . . 499
Etherization per Rectum . . . 347
Excision of Knee-joint . . . 479, 601
" " Scrofulous Glands of the Neck . . . 599
Eye(s), Absence of . . . 274
" Angle of, Injury to . . . 733
" Congenital Defects of . . . 535
" Disturbance of, after Faucial Diphtheria . . . 266
" Syphilitic Development of . . . 263
Feeding of Infants . . . 389
Femur, Dislocation, Congenital of . . . 123
" Osteotomy of . . . 275, 601
" Separation of Lower Epiphysis of . . . 540. 602
Fever, Cerebro-Spinal . . . 121
" Enteric . . . 309, 596
" " Meningitis, Perforation of Gall-bladder . . . 659
" Typhus . . . 124
Fibro-Sarcoma of Back . . . 411
Fistula in Ano, in the New-born . . . 477
" Fecal, in Scrotum . . . 668
" Umbilical . . . 736
Foreign Body in Air-Passages . . . 411
" " " Larynx . . . 476
" " " " or Trachea . . . 51
" " " Vermiform Appendix . . . 62
" " Passage of, through Bowels . . . 287
Fracture, Comp. Commin. Occipital Bone . . . 55
" Simple, Femur . . . 283, 292
" " Bilateral . . . 599
" " " in Utero . . . 406
" " Frontal Bone . . . 474
" " Occipital Bone . . . 730
Gall-bladder, Perforation of . . . 659
Galvanization of Brain in Chorea . . . 57
Gastro-Intestinal Catarrh . . . 24
Gangrene of Lung . . . 600
Genu-Valgum and Osteoclasis . . . 96, 261
Glioma of Pons, and-so-forth . . . 405

Glioma of Pons and Medulla 205
" " Retina 603
Grafting, Skin and Sponge Combined 283
Hare-lip, Double, Operation for 344
" Treatment of Premaxillary bone in 126
Heart, Biloculate 471
" Interventricular Communication, Congenital 404
" Malformation of 304
" " " and Relation to Cyanosis 269
" Murmurs in Utero 347
" Sarcoma, Enveloping 478
" Hypertrophy of 411
" Valvular Disease of, with Complications and Sequels 372
Hematoma (?) Axillary 286
Hematuria, with Cancer of Kidney 314
Hemorrhage, Cerebral 193
" due to Tracheotomy Tube 540
" from Supra-renal Capsule 656
" from Wall of Tubercular Cavity 63
" Nasal (Epistaxis) in Children 766
" Subperiosteal, due to Scurvy 284
" Umbilical 307, 376
Hernia, Femoral Strangulated 603
" Radical Cure of 538
" Strangulated 604
" Umbilical 733
Hip-joint, Amputation at 537
" " Diseases, Pathology of Round Ligament in 60
" " Mechanism of 59
Hydrocele, Congenital 730
Hydrocephalus 408
" Congenital, Internal, Hyperplasia in 775
" Microcephalus 748
Hydro-Therapeutics in Infantile Diseases 323
Hygroma, of Neck 734
Hypertrophy of Foot due to Lipoma 626
" Pseudo-Muscular 493
Hypodermic Injection of Morphia in Convulsions 763, 764
Hysteria 353, 654
Hysterical Affections 468
Idiocy, Traumatic 601
Inanition, Corneal Gangrene Associated with 772
Incontinence of Urine 302, 533, 577
" " " from Malformation 790
" " " from Malformed Ureter 656
Inunction, Effect upon Temperature 262
Indigestion, Intestinal 367
Infantile Paralysis 592
" " Surgical and Orthopedic Treatment of 714
Infants, Fever-cot for 760

Infectiousness of Milk from Tuberculous Cows 585
Inflammation of Joints as a Sequel of Diphtheria 318
Influenza 531
International Congress, Medical Sciences, Copenhagen, 1884; List oi Subjects for Communications and Discussions 120
Intestine, Hygiene of Diseases of 762
Intestinal Obstruction due to a Diverticulum 540
Intestinal Obstruction due to Perforation of Vermiform Appendix 477
Intussusception 57
" Acute, Recovery 780
" Treated by Inversion and Inflation 197
" Treated by Laparotomy 665, 729
Jaundice, Congenital 573
" in the New-born 44, 64
Joints, Gangliar Disease of 784
Kairin, Action of 258
Kerato-Conjunctivitis by the Elimination of K. I. in Breast Milk 713
Kidney, Cancer of, Hematuria 314
" Rupture, Supposed, of 735
" Sarcoma, Congenital of 403
Kineseo-Neuroses 722
Knee-joint, Anchylosis of, Excision 479
" " Excision of 601
" " " " Recovery 785
" " Lateral Deviations of 257
Knee-Phenomenon 469
K(o)umyss, Artificial 177, 286
Lactation and Weaning 320
" Defective Causes, Influence of Medicinal Substances upon 455
Laryngitis, Acute, Accompanying Measles 768
" Pseudo-Membranous 609
Larynx and Trachea, Foreign Bodies in 51
Lead, Paralyses 403
Ligation, Successful, in Encephalocele 783
Lipoma, Congenital 65
" of Foot 626
Literature of Diseases of Children 61
Litholapaxy 332, 333, 606
Liver, Acute Yellow, Atrophy of 402, 650, 719
London Letter 579
Lymphatic Gland, Caseous Enlargement of 60
Malarial Poisoning in New-born 348
" Taint 386
Malformations, Congenital 584
Mare's Milk Condensed 585
Maternal Impressions 584
Measles, Nine Days, Incubation of 588
" Propagation of 311
Medicines, Agreeable 706
Membranous Croup and Whooping Cough, Tracheotomy 786

Meningitis 125, 659
" Chronic Resemblance to Hereditary Syphilis 116
" Tubercular, Bacilli in, Treated with of K—— and Croton Oil, and by Phosphorous 197, 201, 336, 405, 598
Microbes of Small-pox and Scarlatina 396
Microcephalus, Hydrocephalus 748
Micrococci in Scarlatinal Kidneys 470
" " Mountain Air 765
Miliary, Tuberculosis 661
Milk, Condensed, for Bottle-fed Babies 743
Milk, Cure at Frankfort 648
" Diet 277
" Human and Cow's, Difference Between 454
" in Male Breast 525
" from Tuberculous Cows, Infectiousness of 585
" Mare's, Condensed 585
" Mother's, Physiology of in Relation to Nourishment 451
Monster, Double Headed 194
Morphia in Convulsions 763, 764
Mortality of Infants in New York City, 1883 345
" " " " Russia 346
Mother's Marks 274
Mumps, Metastatic Orchitis, and Meningitis 125
Myeloid-Sarcoma of Inferior Maxilla 64
Myelitis, Subacute, from Lead 403
Myelitis (Polio), Cerebral 458
Nevus, Treated Locally by Arsenic 64
Natural Waters in Diseases of Children 487
Nasal Hemorrhage (Epistaxis) in Children 766
Navel, Hemorrhage from 473
" Treatment of 452
Nephrectomy 541
Nephritis, Acute, Treatment of 761
" a Sequel of Mumps 662
" Scarlatinal 265
" after Small-pox 250
Neurectomy 786
Night Terrors 652
" " in Children 753
Non-Rheumatic Origin of Chorea 778
Nourishment, Artificial, Establishment for 586
" the most Important Preparations 706
Oat-meal for Small Children 457
Occipito-Atloid Articulation, Inflammation of 471
Ophthalmia of New-born 282, 332, 362, 384, 703
Optical Disturbances following Diphtheria 773
Oral Cavity, Hygiene of in New-born 449
Orchitis, and so forth 125
Osteitis, Suppuration, of Femur 409
" Syphilitic, Infantile 541

Osteomalacia 326
Osteotomy 189
" for Genu-Valgum 787
" for Genu-Valgum, Wound of Popliteal Artery 479
" of Femur 275, 601
Otorrhea in Children 774
" Thrombosis Lateral Sinus, Septicemia 199
Outward Rotation of Lower Extremities 538
Ovariotomy 323, 604, 668
Ovary, Sarcoma of 732
Pains in Head during the Growing Period 113
Paralysis, after Diphtheria, Peculiar 72
" Cardiac after Diphtheria 127
" Complicated with Chorea 267
" General, Transitory 404
" High Degrees of 521
" Infantile 592, 725
" " Spinal Cord in 339
" Lead 403
" of Accommodation and Diplopia 207
" " " after Diphtheritic Sore Throat 598
" Spinal, with Cerebral Complications 340
Paraplegia of Pott's Disease 126
Parasites, Animals in Larynx 725
Parrot's Disease 768
Pediatrics, Relation to General Medicine 37
Pericarditis 327, 344
" Purulent, Incision 192
Perineal Pressure from Bicycle Riding, Evil Effects of 790
Peritonitis, Perforation of Vermiform Appendix 477
" Thrombosis of Umbilical Vein 347
Phlebotomy of Superior Longitudinal Sinus 475
Phthisis, Pulmonalis and Yellow Tubercular Deposits in Brain 528
Piazza's Mixture for Erectile Tumors 731
Pilocarpine, Acetate in Diphtheria 41
Pleurisy 53, 158
" Diaphragmatic 659
" Purulent and Pleurosotomy 407
Pleuritic, Exudate, Operative Treatment 43
Pneumogastric-nerve, Inflammation from Pressure 274
Pneumonia, Convulsions in 287
" Croupous 149
" Septic, in the New-born 116
" Treatment by Calomel 644
Pneumo-Thorax after Tracheotomy 186
Poisoning by Carbolic Acid 286
" " Chloroform taken Internally 108
" " Quinine 388
Poliomyelitis, Cerebral, Anterior Strychnia in 458
Polypus, Nasal 731

Porrigo Favosa 523
Pott's Disease, Paraplegia in 126
" " Principles of Early Diagnosis 341
Premaxillary Bone, Treatment of 126
Prepuce of New-born, Treatment of 280
Progressive Pernicious Anemia, Case of 756
Prostate Gland, Hypertrophy of 63
Pruritus Ani 467
Pseudo-Muscular Hypertrophy 493
Psychical Troubles 720
Pulmonary Collapse 284
" Sclerosis and Dilation of Bronchi 724
Purpura Simplex 207
" " et Hemorrhagica 362
Quinine, Poisoning by in Typhoid Fever 388
" Sulphate, Use of 45
" " in Scarlet Fever 647
Rectum, Absence of, Colotomy 606
" Opening into Vagina 729
Resection of Tibia 410
Respiration, Muscular Spasm of 727
Rheumatic, non-Rheumatic Origin of Chorea 778
Rheumatism, Acute in New-born 647
" Articular 395
Rickets 139, 324, 335, 709
" and Food 351
" Congenital 176
" Due to Scurvy 278
" Fetal 172, 281
" Syphilitic 174
" Treated by Phosphorus 264
Rötheln 56, 660
" Measles 614
Round Ligament in Pathology of Hip Diseases 60
Rubber-bags (expansive) for Head Support in Diseases of Cervical Spine 409
Santonin Method of Administering 712
Sarcoma of Brain 590
" " Eyeball-stump 602
" " Heart 478
" " Kidney, Congenital 403, 669, 736
" " Ovary 732
" " Superior Maxilla 200
" Fibro of Back 411
" Myeloid of Inferior Maxilla 64
Scarlet Fever and Diphtheria, Relation between 397
" " Caused by Infected Milk 589
" " Discussion of 399, 400
" " Malignant 287
" " " Complications in 167
" " Microbes of 396

Scarlet Fever Propagation of 197, 311
" " Prophylaxis in 176
" " " as to Contagion 272
" " Temperature in 110
" " Treatment of 113
" " " " Initals symptoms by Quinine 647
Scarlatinal Dropsy, Wet Pack in 336
Scleroderma, Left Lower Extremity 605
Sclerosis 592
Scrofula and Syphilis 391
" Nature and Treatment, Bacilli 312
Scrofulosis after Vaccination 163
Scrofulous Cervical Glands, Excision of 590
Scurvy-Rickets 278
Septicemia, and so forth 199
Simulated Diseases 593
Skin Grafting 288
Skull, Arrested Development of 274
Small-pox, Microbes of 396
" " Mortality in England and Wales 587
" " Prevention of Pitting by Clay and Vinegar 588
" " Propagation of 311
" " Treated by Ether and Opium 645
Sore-throat 190
Spina Bifida 187
" " Cure 785
" " Cured by Elastic Ligature 536
" " Treated by Iodized Glycerine 259
Spinal Caries 125
" Cord in Infantile Paralysis 338
" Curvature, Etiology of 781
Sponge Grafting 283
Sporadic Cretinism in Scotland 769
Stomach and Duodenum, Imperforate 593
" Symptoms of Disease Resulting from Inflammation Affecting Larynx 260
" Washing Out 170
Strabismus and Convergent Diplopia from Scalp Wound 735
" Convergent Unaccompanied by Paralysis of Accommodation as a Sequel of Diphtheria 636
Stricture of Esophagus 499
" " Trachea Caused by Tracheotomy Tube 345
Strychnia in Poliomyelitis 458
Sudden Death in Diphtheria 776
Summer Diseases of Children 556
Supra-Renal Capsule, Hemorrhage from 656
Superior-Longitudinal Sinus, Wound of; Phlebotomy of Same 475
Swallowing a Watch-Chain 127
Sympathetic Nerve Lesion in Neck 342
Syphilis, Acquired 161
" and Scrofula 391

Syphilis, Congenital 464
" Effects upon Teeth 179
" Hereditary, Articular Inflammation in 726
" " Delayed 315, 518
" Heredity of 319
" " and Transmission of 175
" Infantile 513, 707
" " and Hereditary 202, 393
" Propagated by the Placenta 762
" Transmission of 584
" Treatment of 169
Syphilitic Infants Nourishment 47
" Osteitis 541
Tabes Dorsalis 316
Talipes, see Club-foot . . . . .
" Calcaneus, Excision of part of Tendo-Achillis 667
" Equino Varus acquired 539
Teeth, Disturbance in Development and Treatment 263
" Effects of Syphilis upon 179
Temperature as Modified by inunction 262
" in Scarlet Fever 119
Testes in Perineo 135
Thrombosis of Umbilical Vein 347, 397
Thrombus of Lateral Sinus, and so forth 199
Thrush 710
Tibia, Resection of 410
Tinea Tarsi, Chlorate of K., a Specific for 523
Tonsillitis, Chronic and Tonsillotomy 334
Tonsillotomy 268, 334
Tracheotomy by Thermo-Cautery 479
" in Croup 10, 545
" " Diphtheria 345
" " Diphtheritic Croup 535
" " Membranous and Diphtheritic Croup 411
" Sequels, Emphyema and Pneumo-Thorax 186
" Tube Causes Ulceration and Hemorrhage 540
" Under Two Years of Age 118
Training of Children, Rules for 109
Traumatic Aphasia Cured by Trephining 783
" Malignancy, Acute 786
Treatment of Dysentery with Bismuth per Rectum 747
Trismus Nascentium 180
Tubercle Bacillus, Signifigance of 207
" " and Granulating Inflammation of Joints 782
Tubercular (Yellow Deposits) in Brain and Pulmonary Phthisis 528
" Suppurating Glands open into Trachea, Asphyxia 405
Tuberculosis, Acute 206
" Acute Pulmonary 344
" Cerebral, Marked 349
" General, Hemorrhage from Wall of Cavity 63

Tuberculosis, Miliary 661
" Pulmonary Infiltrated 173
Tuberculous Diseases of Bone 183
Tumor, Abdominal 49, 195, 196
" Femoral 193
" of Cerebellum, Tubercular 594
" " Iliac Fossa Diagnosis 472
" " Inguinal Region 193
Turpeth-Mineral 331
Typhoid Fever 309
Typhus, Abdominal, a Case of 767
" in Children 124
Ulcer of Foot, Perforating 330
Umbilical Hemorrhage 367
" Vein, Thrombus of 347, 397
Urethra, Prolapse of 188
Urine, Incontinence of from Malformation 790
Urination, Insufficiency in New-born 458
Vaccination 469
" and Erysipelas 127
" Causing Eruption 463
" History of Discovery 64
" Hypodermically 381
" Intra-Uterine 46
" Protective Property of 590
" With Vaccine Obtained from Artificial Cultivation 387
Vaccine Varus, Efficacy of, without Cutaneous Manifestation 171
Vaccinal Electuary 383
Vaccino-Syphilitic Experiments 588
Vaginitis and Vulvitis 208
Vermiform Appendix, Foreign Body in 62
Vessication by Blister, Death 283
Vienna Letter 510
Vocal-bands, Congenital Web of 604
Vulvitis 208
" Apthous 288
Washing Out Stomach of Young Children 170
Weaning and Lactation, Duration of 320
" Premature, Dangers of 524
Wet-Nurse *versus* the Bottle 346
" Pack in Scarlatinal Dropsy 330
Whooping-Cough 779
" " Bacillus of . . . . [illegible]
" " Membranous Croup and Tracheotomy 787
" " Specifics in 548
" " Treated by Alum 387
" " " " Antseptics 728
" " " " Atropine 304
" " " " Ferri Carb 273
Who Shall Treat The Children 737

Worm Diseases, Peculiar to Man 657
Wound of Scalp 735
" of Popliteal Artery 479
" Pistol-shot of Colon, and so forth 732
" Punctured Angle of Eye 733
" " Cerebellum through Occipito-Atloid Articulation 480
" Puncto-Lacerated Abdomen 600
Xanthelasma Congenital 661

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